MANAGEMENT PLAN FOR THE LYNN CANAL (DISTRICT 15)

DRIFT GILLNET FISHERY

2004

by

Randall L. Bachman

REGIONAL INFORMATION REPORT NO.[1] 1J04-20

Alaska Department of Fish and Game
Division of Commercial Fisheries
Juneau, Alaska

May 2004

[1] The Regional Information Report series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Division of Commercial Fisheries.

AUTHOR

Randall L. Bachman is the Haines Area Management Biologist for the Alaska Department of Fish and Game, Division of Commercial Fisheries, P.O. Box 330, Haines, Alaska 99827-0330. Voice: 907-766-2830, FAX: 907-766-2189, e-mail: randy_bachman@fishgame.state.ak.us.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Appendix **Page**

INTRODUCTION

This document describes the management plan for the 2004 Lynn Canal drift gillnet fishery. The purpose of this plan is to provide commercial fishers and others with a general idea of how the fishery may be managed, what tools are available to the manager, the conditions that trigger major management actions and an idea of the expected run size of targeted salmon stocks. This plan will also serve as a reference that consolidates important historical harvest and escapement data and current fisheries information.

The Lynn Canal drift gillnet fishery targets sockeye, summer chum, coho, and fall chum salmon. King and pink salmon also are taken as incidental catch. The sockeye run in Lynn Canal has historically been among the largest in Southeast Alaska. The coho run to the Chilkat River is among the largest in northern Southeast Alaska. Currently, Chilkat River sockeye salmon and Lynn Canal coho salmon stocks are healthy. Total returns of Chilkoot Lake sockeye salmon have been below average since 1993 but the returns in recent years have improved. Fall chum salmon stocks have not recovered to historical highs of the mid-1980s since a dramatic decline begin in 1989, although escapements based on fish wheel catches and escapement surveys during 1999 through 2003 were much improved over prior years. The department initiated a mark-recapture project for Chilkat and Klehini River Fall chum salmon stocks in 2002. An estimated 204,081 adult chum salmon migrated by the lower Chilkat River fish wheel site during 2002 and during 2003, an estimated 165,721 adult chum salmon migrated into the Chilkat River drainage (Bachman, *In prep*).

Currently, problems exist in the management of Lynn Canal, especially in our understanding of reduced sockeye salmon production from Chilkoot Lake and Chilkat/Klehini River chum salmon. Stock assessment projects intended to fill some of these information gaps are briefly discussed.

Details presented for managing the 2004 season may be updated as factors change during the season or new information becomes available.

Fishery Area

The Lynn Canal drift gillnet fishery occurs in the waters of District 15. The district is divided into three regulatory sections: 15-A (upper Lynn Canal), 15-B (Berners Bay), and 15-C (lower Lynn Canal). These regulatory sections are further divided into seven statistical areas (Figure 1).

Contributing Stocks

Target stocks for the gillnet fishery are:

1) Sockeye salmon from June through early September. The primary stocks originate in Chilkat and Chilkoot lakes (Figure 2). Sockeye salmon originating from the Berners Bay rivers, Chilkat River mainstem, and other relatively minor, local stocks are also harvested in the fishery. Both Chilkat and Chilkoot lakes have two separate stock groups, and an early and a late component. Those stock groups are managed separately for escapement goals. The return timing for the Chilkat and Chilkoot lake sockeye salmon stocks in the Lynn Canal drift gillnet fishery is shown in Figure 3.

2) Summer chum, predominately from hatchery enhancement programs, and pink salmon from late June through July. The return timing for summer chum and pink salmon stocks to the Lynn Canal drift gillnet fishery is shown in Figure 4.

3) Fall chum and coho salmon from September through mid-October. The primary fall chum salmon stocks originate in the Klehini and Chilkat rivers. The primary coho salmon stocks originate in the Chilkat River and Berners Bay rivers. The return timing for fall chum and coho salmon stocks to the Lynn Canal drift gillnet fishery is also shown in Figure 4.

King salmon are harvested incidentally in the Lynn Canal drift gillnet fishery. The drift gillnet fishery is limited to 7,600 king salmon annually in the region (5 AAC 29.060 (b)(2). The commercial drift gillnet catch of king salmon has been well below this allocation since 1998. In 2003, the Board of Fisheries adopted the Lynn Canal and Chilkat River King Salmon Fishery Management Plan (Appendix 1). This plan establishes management measures in subsistence, commercial, and sport fisheries that harvest Chilkat River king salmon based on projected inriver run strength. The newly established biological escapement goal of 1,750 to 3,500 large king salmon (three ocean age and older) provides the framework for action points under the plan. The provisions in the management plan are identical to methods the department used to managed the gillnet fishery in Section 15-A during recent years. The return timing for king salmon stocks to the Lynn Canal drift gillnet fishery is shown in Figure 4.

Historical catches for sockeye, coho, pink, chum, and king salmon in the Lynn Canal drift gillnet fishery are shown in Table 1 and Figure 5.

Regulatory Decision Process

The fishery opens by regulation at 12:01 p.m. on the third Sunday of June. The 2004 season will open on 12:01 p.m., June 20 (Statistical Week 26; Appendix 2). Weekly fishing periods are set by emergency order and distributed to the public by department news releases that are typically announced early in the afternoon on Thursdays.

General Goal

The overall management goal is to achieve desired spawning escapement levels while harvesting the available surplus for a long-term maximum sustainable yield of all Lynn Canal salmon stocks. Stock specific escapement goals have been established for the Chilkoot and Chilkat lake sockeye salmon stocks. Escapement to Chilkoot Lake is monitored at the enumeration weir located on the outlet of Chilkoot Lake. The sockeye salmon escapement to Chilkat River/Lake is monitored using fish wheels operated in the lower Chilkat River. Total escapement is estimated using mark-recapture methodologies. The Chilkat Lake weir will be operated by the Department of Fish and Game in 2004 to monitor escapement and serve as a mark-recapture platform.

MANAGEMENT GOALS

Specific management goals for the 2004 Lynn Canal drift gillnet fishery are as follows:

1. Obtain escapement counts for early run (through week 28; July 13) and late run Chilkoot Lake sockeye salmon of 16,500 and 34,000 fish, respectively (Table 2).
2. Obtain an escapement of between 52,000 and 106,000 sockeye salmon to Chilkat Lake. The escapement objective for the early stock is 17,500 fish through week 33 (August 17) and 47,500 for the late stock.
3. Obtain a peak foot escapement count between 4,000 and 9,200 coho salmon to Berners River.
4. Provide for sufficient chum, coho, and pink salmon spawning escapements to the Chilkat, Chilkoot, and Berners rivers and other Lynn Canal systems, while harvesting those fish in excess of escapement needs.
5. Manage the commercial drift gillnet fishery in a manner that is consistent with the Lynn Canal and Chilkat River king salmon fishery management plan.

2004 OUTLOOK

Chilkat Sockeye Salmon

The 1998 Chilkat Lake mark-recapture sockeye salmon escapement estimate totaled 211,114 fish, including 80,782 early run fish, and 130,331 late run fish, well above the desired upper escapement goals for both stocks (Table 3; Figure 6; McPherson 1990). The 1999 Chilkat Lake mark-recapture escapement estimate was 236,374 sockeye salmon, including 116,682 early run fish, and 119,692 late run fish, again exceeding the desired escapement goal range for both

stocks. Historically, 40.5% of the Chilkat Lake sockeye salmon escapements are age-2.3 (six-year old) fish, 23.4% are age-2.2 (five-year old) fish, 30.9% are age-1.3 (five-year old) fish, and the remainder are primarily age-1.2 (four-year old) fish (Appendix 3a). The Lynn Canal drift gillnet harvest of Chilkat Lake sockeye salmon for return years 1998 and 1999 were estimated to be 120,644 and 149,697 fish respectively, compared to the 1976 to 2003 historical average of 93,628 fish (Table 4).

The Northern Southeast Regional Aquaculture Association (NSRAA) has conducted a smolt abundance estimation project at the outlet of Chilkat Lake from 1995 through 2003 (Table 5). Sockeye salmon smolt production from Chilkat Lake in 2001 and 2002, the dominant smolt years for the 2004 return, were estimated to be 1.40 million fish and 0.43 million fish, respectively. These smolt abundance estimates are 79% and 24%, respectively, of the historical 1989–1990 and 1994–2004 average. Enhanced returns of sockeye salmon from the 2000 egg-take and back planting program will begin to return to Chilkat Lake during 2004. Returns from the NSRAA release program are not expected to be very significant as outmigration estimates of age 1.0 enhanced smolt leaving the lake in 2002 was very low (Table 5). For 2004, assuming a 10% marine survival rate and that 71% (Appendix 3a) of adult sockeye salmon return at three-years ocean age (combination of age-1.3 and 2.3 fish) there will be approximately 99,300 three-ocean (ages 1.3, 2.3 and 3.3) Chilkat Lake sockeye salmon returning in 2004. Assuming a 10% marine survival rate and that 27% of those smolts return at two-years ocean age (ages 1.2 and 2.2), there will be approximately 11,700 two-ocean (ages 1.2 and 2.2) Chilkat Lake sockeye salmon returning in 2004. The total expected return of four, five, and six-year-old sockeye salmon to Chilkat Lake is approximately 115,101 fish (Table 6), which is 54% of the 1976 to 2003 historical average of 215,000 fish (Table 7).

Mark-recapture estimates of the Chilkat River mainstem sockeye salmon escapements in 1999, 2000, and 2001, (the dominant parent-years) were 14,300 54,300, and 21,900 fish, respectively (Table 8). The dominant age classes for this run include age-0.2 (22.9%), 0.3 (40.4%), and age-1.3 (25.3%) fish based on scale samples collected from the spawning grounds (Appendix 3b). The Lower Chilkat River fish wheel project has been providing inseason stock assessment and post-season escapement estimates of Chilkat River mainstem sockeye salmon since 1994 (Bachman and McGregor 2001). These estimates of abundance were well below the historical 1994–2003 average of 30,200 fish for brood years 1999 and 2001 but the abundance estimate for the year 2000 is 1.8 times this average and the highest estimate on record. Total escapement estimates are not available for Berners Bay sockeye salmon systems. Peak aerial escapements to Berners Bay streams were below average in 1999 but above average in 2000 and 2001. The historical and average age composition for sockeye salmon from rivers within Berners Bay is shown in Appendix 3c. The average dominant age classes for Berners Bay rivers are age-0.3 (16%), 1.2 (11.5%), and age-1.3 (68.5%). The proportion of 2-ocean age fish in 2003 from samples taken from the Chilkat River mainstem were above average (Appendix 3b) and near average for Berners Bay area rivers (Appendix 3c). The 1999 and 2000 commercial harvest of Berners Bay and Chilkat River mainstem sockeye salmon was estimated at 9,600 and 26,900 fish. This harvest was 70% and 1.6 times, respectively of the historical 1976–2003 average harvest of 13,700 fish (Table 9). Based on the information above, an above average run of Chilkat River mainstem sockeye salmon is expected in 2004.

Chilkoot Sockeye

The Chilkoot Lake weir has been in operation since 1976 (Kelley and Bachman 1999, Bachman and Sogge, *In prep*). The Chilkoot Lake sockeye salmon weir count during the dominant parental brood year (1999) for the 2004 return was 19,284 fish (3,588 early run and 15,696 late run; Table 10). The early run and the late run segments were below escapement goals (Figure 6). The Lynn Canal drift gillnet catch for the dominant brood year, 1999, was estimated to be 4,300 fish, well below the 1976 to 2003 historical average of 103,800 fish (Table 11) and the second smallest catch on record.

Zooplankton abundance was average during 2000; the year sockeye salmon juveniles would have been rearing in the lake (Table 12; Figure 7). The 2000 fall hydroacoustic estimate was also above average indicating improved numbers of emigrating smolt during the spring of 2001. The average size of smolt leaving the lake in 2001 for age 1.0 and 2.0 was the highest on record.

Although the total return in recent years has been better, the annual total adult return of Chilkoot Lake sockeye salmon has been well below average since 1993. The 1999 total return of Chilkoot Lake sockeye salmon (23,500 fish) was the third lowest on record and 13.8% of the 1976–2003 average of 170,200 fish (Table 13; Figure 6). Management will be monitoring the escapements during 2004 closely and implement management decisions to the commercial drift gillnet salmon fishery to achieve the lower end of the escapement goal range for Chilkoot Lake sockeye salmon like what was achieved in 2002 and 2003.

The 2004 Chilkoot Lake sockeye salmon return is projected to be better than recent years based on:

- Average zooplankton abundance during 2000.
- Above average estimate of pre-smolt during the fall 2000 acoustic survey.
- Highest on record size of smolt leaving the lake in 2001 indicating good rearing conditions for this brood.
- Second highest on record proportion of age-1.2 fish in the 2003 escapement.

While the indicators listed above suggest a better return for this year it should be noted that the dominant parent year escapement (1999) was poor, third lowest on record. The total return of Chilkoot Lake sockeye salmon in 1999 was also the third lowest on record. Given this information, the department will continue to be somewhat conservative and base management decisions on inseason data.

Summer Chum

The majority of the summer chum salmon harvest is comprised of enhanced fish from remote release sites at Boat Harbor and Amalga Harbor. Smaller numbers of wild chum salmon are produced from local area streams such as Sawmill Creek and other Berners Bay rivers on the

eastern side of Lynn Canal and the Endicott, Beardslee, and St. James rivers on the western side of Lynn Canal.

Douglas Island Pink and Chum Salmon Incorporated (DIPAC) have been operating chum salmon remote release sites at Boat Harbor and Amalga Harbor since 1988 and 1991, respectively (Table 14). The contribution to the lower Lynn Canal drift gillnet fishery have averaged 314,900 fish for years 1991–2003 (Table 15). In recent years, hatchery chum salmon contributions to the drift gillnet fleet has exceeded this average. Preliminary projections for the Boat Harbor return are approximately 191,000 fish, an increase from last year and 1.6 times the 1991–2003 average. No hatchery cost recovery fishery is planned for the Boat Harbor area, so these fish will all be available for common property fishery harvest. The preliminary projection for the Amalga Harbor project is approximately 1,440,000 fish, 1.4 times the 1994–2003 average of 1,066,600 fish. DIPAC will conduct a hatchery cost recovery fishery in its Amalga Harbor Special Harvest Area in Section 11-A to harvest chum salmon returning to the Amalga Harbor remote release site.

Peak aerial escapement counts of summer chum salmon in Sawmill Creek in 1999, 2000, and 2001 were 3,100, 13,000, and 720 fish respectively. Those peak aerial escapements are near or above the 1993–2002 average for this index system (Figure 8). Cumulative peak counts of chum salmon in western Lynn Canal streams in 1999, 2000, and 2001 were 2,780, 4,680, and 7,100 fish respectively. The peak counts in 1999 were below the 1993–2002 average and the 2000 and 2001 peak count exceeded this average (Figure 9). The department is concerned about the status of wild chum salmon stocks along the western side of Lynn Canal, particularly the Endicott River. Because of these concerns, the department implemented strategies designed to reduce the exploitation rate of wild chum salmon in order to boost escapements into western Lynn Canal streams in 2003. We feel that these strategies improved escapements into the Endicott River as the 2003 peak chum salmon count of 16,100 fish exceeded the 1993–2002 average of 2,300 fish (Figure 10). Based on parental-year escapement counts, the wild summer chum salmon return in 2004 should be average to above average in run strength but at a much lower scale than the hatchery summer chum salmon return.

Fall Chum

Fall chum salmon returning to Lynn Canal are wild stocks originating primarily from the Klehini River, Chilkat River, and several Chilkat River tributaries. A smaller number of fall chum salmon are produced from the Herman Creek spawning channel and streamside incubation projects carried out by NSRAA. Parent-year escapements for the 2003 return of fall chum salmon were generally low. Peak aerial counts in the Klehini River in 1999 and 2000 were 8,170 and 16,900 fish respectively, above the 1993–2002 average of 7,200 fish. For the Chilkat River, the peak aerial survey counts were 200 and 61,200 fish (1999 and 2000), well below the peak aerial escapement average of 15,800 for 1999 but well above this average in 2000. It is known, however, that aerial escapement counts are not very reliable for this system because of the glacial nature of the Chilkat River and the protracted spawning duration of these stocks. Other information that may be used as an indication of the strength of the fall chum salmon return is the fishery performance (Appendix 4)

data from Lynn Canal. The fishery performance in the dominant parental brood years (1999 and 2000) was just below the 10-year average. Based on this information, the return of fall chum salmon stocks is expected to be average. Escapements of Chilkat River fall chum salmon since 1999 have improved. Management strategies designed to sway harvests away from these stocks have been successful in recent years. Both fish wheel counts and aerial escapement surveys have indicated increasing escapements of these fish into spawning areas of the Chilkat River during years 1999 through 2003. A mark-recapture experiment utilizing the lower Chilkat River fish wheels was initiated in 2002 and 2003. The results of this study are discussed later in this document.

Coho Salmon

The coho salmon return in Lynn Canal is comprised of several stocks. The largest coho salmon system in the area is the Chilkat River followed by the Berners and Chilkoot rivers.

A mark-recapture experiment conducted in 1990 estimated that the total coho salmon escapement to the Chilkat River was 80,500 (95% confidence interval 70,000 to 95,600 fish), (Dangel et al., ADF&G, Sport Fish Division, unpublished data). In 1998 and 2002-2003, Sport Fish Division conducted mark-recapture experiments to estimate the escapement of Chilkat River adult coho salmon. The escapement estimate for the 1998 project was 37,132 fish (SE = 7,432; Ericksen 1999b). Results for the 2002 and 2003 abundance estimate was 209,300 and 195,400, respectively (Chapel, Sport Fish Division, personal communication). Sport Fish Division initiated a coho salmon smolt coded wire-tagging (CWT) project to estimate smolt size, age structure, production of coho salmon smolts in 1999 and marine harvest of Chilkat River adult coho salmon in various fisheries in 2000 through 2003. The lower Chilkat River fish wheels were used to recover tagged fish for this research. During 2002, 352 tagged coho salmon were recovered from random sampling of various sport and commercial harvests. From these samples it was estimated that 114,000 coho salmon bound for the Chilkat River were harvested in commercial, sport, and subsistence fisheries. Most (55.3%) of the harvest occurred in the commercial troll fishery, followed by the Lynn Canal drift gillnet fishery (38.0%). The remainder of the harvests occurred in the recreational, commercial seine, and subsistence fisheries (Ericksen 2003).

A longer-term (1982 to present) stock assessment program has been conducted on the Berners River (Clark et al. 1994; Shaul and Crabtree 1998). Results from that program indicate the average (1982 to 1995) total coho salmon return for that system is approximately 33,000 fish (range 14,000 to 73,800). Total harvest rates on the Berners River stock (1982 to 2003) have averaged 68%. Parent-year survey counts at the Chilkat, Berners, and Chilkoot rivers were generally above the ten-year average for all systems. The 2000 and 2001 escapements to Berners Bay were within and above the escapement goal range of 4,000 to 9,200 fish.

The 2000 and 2001 Chilkat River fish wheel catch of 1,400 and 2,550 coho salmon was close the 1994–2002 average in 2000 and exceeded this average during 2001 (Figure 11). The District 15 gillnet catch of 35,600 coho salmon in 2000 and 34,200 in 2001 (Table 1) was approximately

65% of the previous ten-year average for both years. Weir counts for Chilkoot River coho salmon are also available but of limited value. In recent years the weir was operated primarily for sockeye salmon and in most years has been removed prior to the peak of the coho salmon return (Appendix 5). Based on this information the coho salmon return is expected to be above average during 2004.

King Salmon

Sport Fish Division has, since 1991, conducted mark-recapture methods to determine the spawning abundance of Chilkat River king salmon (Johnson et al. 1993; Johnson 1994; Ericksen 1997, 1998, and 1999a; Table 13). The department reviewed the data from this project and based on that analysis, a biological escapement goal was established for this stock. The biological escapement goal range is 1,750 to 3,500 mature (≥ age 1.3) king salmon (Table 2). The Alaska Board of Fisheries adopted the Lynn Canal and Chilkat River king fishery management plan at a meeting in Ketchikan in February 2003 (Appendix 1). This plan will provide the framework necessary to manage the existing fisheries that harvest Chilkat drainage king salmon for desired escapement. The 2004 preseason forecast for mature (≥ age 1.3) Chilkat king salmon is estimated to be above the 1991–2003 average of 4,726 fish (Table 16). There is no directed fishery for king salmon in Lynn Canal commercial fisheries but management actions have been implemented to reduce the incidental take of Chilkat River king salmon. These management actions have been effective in conserving Chilkat River king salmon stocks as the biological escapement goal has been met or exceeded each year since 1991.

2004 MANAGEMENT APPROACH

Fishery Openings

In 2004, the department intends to manage the Lynn Canal drift gillnet fishery to obtain the lower ends of the escapement goal ranges for early and late stocks of Chilkoot Lake sockeye salmon. Lower than average populations of Chilkoot Lake zooplankton that serve as the forage base for rearing juvenile sockeye salmon are thought to be limiting production from this system. The department believes targeting the low end of the escapement goal range is prudent to reduce the possibility of high fry production and resultant heavy predation on the lake's principal food source for sockeye salmon.

Section 15-A

Section 15-A will open for two days south of the latitude of Seduction Point beginning 12:01 p.m., Sunday June 20 (Statistical Week 26) with no mesh restriction. If the Chilkoot River weir count through June 16 is less than 4,500 sockeye salmon, the eastern side of Section 15-A will be closed. If the weir count is 4,500 sockeye salmon or greater, the eastern portion of 15-A may be opened. Chilkat Inlet will remain closed the first week of the season to protect mature king salmon returning to the Chilkat River. Given that the department has no preseason expectations for a poor run of Chilkat Lake or mainstem sockeye salmon, Chilkat Inlet will be managed according to the Lynn Canal and Chilkat River King Salmon Fishery Management Plan for the first three weeks of the season.

King salmon return timing data from the sport fish king salmon tagging program indicates that approximately 90% of the Chilkat River king salmon return has passed the inriver drift gillnet capture site at river-mile seven by July 15, which is Statistical Week 29 (Ericksen 1997). Assuming that the travel time from Chilkat Inlet to the Sport Fish Division tagging site is about ten days, the bulk of the Chilkat River king salmon return should be in the Chilkat River by about July 4 (week 28 in 2004).

If the Chilkat River and early-run Chilkat Lake sockeye salmon returns develop as expected, the northern boundary line in Chilkat Inlet will be moved northwards to Glacier Point for week 27 and to Cannery Point for week 28. The area from Cannery Point to the Chilkat River mouth will likely be closed to protect Chilkat River mainstem sockeye salmon during weeks 28 through 30. If the Chilkat Lake sockeye salmon run is stronger than expected, the northern boundary line may be moved to the mouth of the Chilkat River during weeks 31–34. Section 15-A (west of a line beginning at a point within two nautical miles of the western shoreline of Lynn Canal at the latitude of Point Sherman, to Sullivan Rock Light, to Eldred Rock Light, to the southernmost tip of Talsani Island, to the northernmost tip of Talsani Island, to Seduction Point) may be opened for extended periods of time during the summer season if the Chilkat Lake sockeye salmon return is larger than expected. Due to this year's expected smaller than average run of Chilkat Lake sockeye salmon, it is likely that fishing time in this area will be limited to two or three days per week. Fishing time and area may be adjusted inseason and will be based on fishery performance and on stock assessment data, primarily from the fish wheel program in the lower Chilkat River.

If the Chilkoot Lake sockeye salmon return is poor (run not forecasted to meet minimum escapement goals), the eastern side of Section 15-A will be closed for much of the season. Chilkoot Inlet will also be closed north of Seduction Point for most, if not all, of the summer season to protect Chilkoot Lake sockeye salmon if returns are unexpectedly poor. If the Chilkoot Lake sockeye salmon return comes in as expected, Chilkoot Inlet north of Seduction point and the eastern shoreline of Section 15-A south of Seduction Point may be opened.

Chilkat River mainstem fish have a return timing that overlaps the Chilkat Lake early sockeye salmon run (Figure 12; mainstem sockeye salmon are predominantly age 0, Chilkat Lake early run fish are predominantly age 1, and Chilkat Lake late run fish are predominantly age 2). There are no formal escapement goals for Chilkat River mainstem sockeye salmon. Data from the Chilkat River fish wheel mark-recapture program will be used to judge run strength inseason and escapement

levels post season. The department is hopeful that this data may be used in the future to develop spawning escapement goals for this stock.

Fall management will begin in late August or early September. Fall chum salmon conservation will drive fishery management in Section 15-A from week 35 until the end of the season. If the late run of Chilkat Lake sockeye salmon is very strong, the department will use a management approach to the early fall fishery in Section 15-A similar to that used in the fall of 1999. In order to target fishing on Chilkat Lake sockeye salmon while limiting the harvest of milling Chilkat River fall chum salmon during weeks 35 and 36 in 1999, Chilkat Inlet was open from the latitude of Point Seduction to the mouth of the Chilkat River and the remainder of Section 15-A was closed. The need to use this management strategy in 2004 will be assessed in season and will be predicated on the strength of the late run of Chilkat Lake sockeye salmon run. The department will assess sockeye salmon and fall chum salmon runs closely by monitoring fishery performance and inriver abundance at the Chilkat River fish wheels to adjust fishing time and area in Section 15-A.

Section 15-B

Commercial gillnet openings in Berners Bay are designed to harvest returns of Berners River coho salmon during years of high abundance. During 2002, Berners Bay was opened in weeks 38 and 39 for 3 days each south of the latitude of Cove Point. During the 2003 season, Berners Bay was opened during week 37 to the end of the season for 3 days each. If coho salmon returns to Berners Bay come in as strong as expected, time and area open to commercial gillnet salmon fishing will be similar to the 2003 season.

Section 15-C

Section 15-C will open for two days beginning 12:01 p.m., Sunday, June 20 with no mesh restriction. If the Chilkoot River weir count is less than 4,500 sockeye salmon through June 16, the eastern side of Section 15-C will be closed north of the latitude of Bridget Point. If the Chilkoot Lake sockeye salmon returns are unexpectedly poor (based on weir counts), there will be 6-inch minimum mesh size restrictions in Section 15-C (except for the Boat Harbor area). This gear restriction will be implemented to minimize the harvest of sockeye salmon while targeting summer hatchery chum salmon. Gear restrictions will be in place only if Chilkoot Lake sockeye salmon returns are unexpectedly poor. If the Chilkoot River weir or Chilkat River fish wheel counts continue to be very poor and effort levels are higher than average, it is also possible that additional areas of Section 15-C may be closed. The decision to open additional area of this section and whether to remove or implement gear restrictions will be driven by Chilkoot River weir counts, Chilkat River fish wheel counts, effort levels, and inseason stock assessment information based on site specific and commercial scale samples.

A strategy used in recent years to harvest hatchery chum salmon while conserving poor returns of Chilkoot Lake sockeye salmon has included, in addition to the 6" mesh size restriction, extended fishing time in reduced areas along the eastern shoreline of Lynn Canal. During the 2002 drift gillnet task force meeting, there was discussion between industry and the department to open reduced area along the eastern shoreline of Section 15-C during the peak weeks of the hatchery

chum salmon return. The department agreed to consider opening a smaller area similar to that used during the 1999 season, if Chilkoot River sockeye salmon escapements warranted this action. The area agreed upon includes the waters of Section 15-C from the eastern shoreline of Lynn Canal at the latitude of Vanderbilt Reef Light to Vanderbilt Reef Light and east of a line from Vanderbilt Reef Light to Little Island Light (Figure 13). If the weir counts are very poor, the department may open this area during July and the first week of August. If weir counts continue to be very poor, it is possible that the eastern shoreline of Section 15-C will be closed entirely.

The Boat Harbor area (those waters within two nautical miles of the western shoreline of Lynn Canal from the latitude of Danger Point at 58°41.73' N. latitude south to a point 2.4 miles north of Point Whidbey at 58°37.05' N. latitude) may be opened for extended periods beginning in week 28, (July 4). During 2002, and 2003 the northern line of the Boat Harbor area was moved from Lance Point to Danger Point, approximately 2 nautical miles south. The purpose of this change in area is to decrease the exploitation rate on wild Endicott River and other western Lynn Canal wild chum salmon stocks, which migrate through this area during the early summer season. This action has been in place for the last two seasons. Escapements of wild chum salmon to the Endicott River have improved as a result of this action. In 2003, the area within the Boat Harbor area west of a line from the entrance to the Boat Harbor proper area was opened continuously beginning the second week of the season. This strategy will be used again in 2004 except that the Boat Harbor proper area will be opened continuously beginning from the start of the season (Week 26, June 20). The remainder of the Boat Harbor area is expected to be open continuously beginning the second week of July. The western shoreline of Section 15-C will be closed north of Danger Point to protect wild summer chum salmon returning to the Endicott River from the start of the season to week 31 (June 20 to July 31).

Fall season management will begin in late August or early September in Section 15-C. A conservative management approach will again be implemented to ensure improved fall chum salmon escapement during the early weeks of the fall season. Management of Section 15-C during the fall season will be based on coho and chum salmon overall run strength and fishing effort levels. Fishing effort will be directed at harvesting expected high returns of coho salmon in Lynn Canal while conserving fall chum salmon.

Other Comments

To avoid gear conflicts, the District 15 drift gillnet fishery will not be open concurrent with the Juneau Golden North Salmon Derby. Consequently, during Statistical Week 35, the District 15 gillnet fishery will not open until Monday, August 23.

The Department may require full retention (5 AAC 39.325) of all salmon harvested in Lynn Canal by emergency order if necessary after consultation with Fish and Wildlife protection. Further details regarding the implementation of this regulation will be announced at later dates. The full retention regulation reads as follows:

5 AAC 39.325. FULL RETENTION AND UTILIZATION OF SALMON.

(a) The Board of Fisheries (board) recognizes that there are times during a salmon season that it

may be necessary to require full retention and utilization of all salmon species.

(b) In a directed salmon net fishery, if the commissioner determines that retention of all salmon species is necessary for the enforcement of this section, the commissioner may, by emergency order, close and immediately reopen a salmon fishery, requiring that all salmon species caught must be retained and utilized, unless otherwise specified in Title 5, chapters 1 through 77.

INFORMATION NEEDS

The current major weakness in the management of the Lynn Canal drift gillnet fishery is poor production of Chilkoot Lake sockeye salmon. In order to conserve Chilkoot sockeye salmon the department has, in recent years, closed the eastern shoreline of Section 15-A during the entire summer fishing season and severely limits fishing along the eastern shoreline of Section 15-C as well. These actions have, as side effects, limited harvest rates on returns of Chilkat Lake sockeye and enhanced chum salmon below levels that could otherwise have been realized. The department has had only limited funds to conduct assessment work at Chilkoot Lake but has collected lake productivity data that points to a limited food supply for juvenile sockeye salmon as a possible cause for poor returns of sockeye salmon to this system. More intensive sampling of the lake and in-depth analysis of the available literature revealed that nutrient enrichment to boost the productivity of Chilkoot Lake is not an option. Analysis of collected data from recent intensive limnological sampling and information from the Chilkoot Lake smolt program at Chilkoot Lake has indicated that productivity is increasing naturally in this system.

The department will continue to collect water quality and zooplankton samples at Chilkoot Lake to monitor the productivity of this system. Results from 2000 through 2003 indicate that Chilkoot Lake may be rebounding from the historical low abundance biomass of zooplankton and rearing sockeye salmon.

Returns of Chilkat and Klehini river chum salmon stocks have been depressed since the early 1990s. A mark-recapture project, similar to the Chilkat sockeye salmon program involving the Chilkat River fish wheels began in 2002 to measure the abundance of this species. A total of 2,611 Chilkat River chum salmon received tags and were released from the fish wheel project. The results of the 2002 chum salmon tagging study indicated that approximately 204,100 fall chum salmon migrated past the fish wheels between June 8 to October 19, 2002. The 2003 results indicated 165,700 fall chum salmon migrated by the lower Chilkat River fish wheel project site. The department will operate the fish wheel program late into the fall season to mark fall chum salmon again in 2004 and 2005.

In 1999, the Sport Fish Division initiated a Chilkat drainage coho and king salmon smolt coded-wire tagging program. The purpose of this project is to estimate the number of coho and king salmon smolt leaving the Chilkat River. Another goal of this project is to estimate the marine harvest of Chilkat River coho and king salmon in sampled fisheries during 2003 through the recovery of coded wire tags that were applied in the spring of 2000, 2001, and 2002. This

program will continue in 2004. The lower Chilkat fish wheels will be utilized this fall to sample and scan for tagged coho salmon and to estimate the proportion of one, two, and three fresh water-age adult coho salmon returning to the Chilkat River this year.

Currently Chilkat sockeye salmon are captured, marked, and released at two fish wheels located in the lower Chilkat River. Recovery of those marked sockeye salmon takes place at upriver spawning locations at Chilkat Lake and the Chilkat River mainstem. Sockeye salmon are recovered in Chilkat Lake by capturing fish at the weir site located near the outlet of Chilkat Lake. This method is the best for examining the entire sockeye salmon escapement into Chilkat Lake. The Chilkat Lake weir will be operated again this year to serve as a mark recovery and collection site for biological samples. In addition, the weir provides run-reconstruction data for sockeye salmon as well as valuable data on the escapement of other salmonid species to Chilkat Lake. The objectives of the program are to: 1) provide postseason escapement estimates for Chilkat Lake sockeye salmon using stratified mark-recapture population estimates, and 2) provide escapement data for other salmonid species to Chilkat Lake. The mark-recovery project at Chilkat Lake is one of the most critical parts of the adult sockeye salmon stock assessment program for Lynn Canal. The department will be managing this project, as NSRAA has terminated their involvement in assessing adult sockeye salmon returns to Chilkat Lake.

As in previous years, the department's management crews will be on the fishing grounds during commercial fishing periods to sample sockeye and king salmon and to monitor the fishery as it progresses. The department requests that commercially caught sockeye and king salmon be retained in separate fish holds or totes so department staff can collect scale and length data from these fish while out at sea monitoring the fishery. The scale samples that are collected from sockeye salmon and escapement information from stock assessment projects in the Haines area form the basis of our stock separation analysis resulting in management decisions. Department staff vessels stand by on **channel 10 VHF** when on the fishing grounds. Please report commercial fisheries violations to the Bureau of Wildlife Enforcement at (907) 766-2533 (Haines), (907) 465-4000 (Juneau).

LITERATURE CITED

Bachman R.L. 2004. Stock assessment studies of Chilkat River salmon stocks in 2003. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report. *In prep*.

Bachman R.L. 2004. Stock assessment studies of Chilkat River salmon stocks in 2002. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report. *In prep*.

Bachman R. L. and A. J. McGregor. 2001. Stock assessment studies of Chilkat River salmon stocks in 1999. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 1J01-36, Juneau.

Bachman R.L. and M. M. Sogge 2004. Chilkoot River Weir Results, 1999 to 2003. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report. *In prep*.

Clark, J. E., J. H. Clark, and L. D. Shaul. 1994. Escapement goals for coho salmon stocks returning to Berners River, Auke Creek, Ford Arm Lake, and Hugh Smith Lake in Southeast Alaska. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 1J94-26, Juneau.

Ericksen, R. P. 1997. Sport fishing effort, catch, and harvest and inriver abundance of Chilkat River chinook salmon near Haines, Alaska, in 1996. Alaska Department of Fish and Game, Fishery Data Series, No. 97-27, Anchorage.

Ericksen, R. P. 1998. Sport fish effort, catch, and harvest and inriver abundance of Chilkat River chinook salmon near Haines, Alaska, in 1997. Alaska Department of Fish and Game, Fishery Data Series, No. 98-31, Anchorage.

Ericksen, R. P. 1999a. Sport fish effort, catch, and harvest and inriver abundance of Chilkat River chinook salmon near Haines, Alaska, in 1998. Alaska Department of Fish and Game, Fishery Data Series, No. 99-19, Anchorage.

Ericksen R. P. 1999b. Abundance of coho salmon in the Chilkat River in 1998. Alaska Department of Fish and Game, Fishery Data Series, No. 99-29, Anchorage.

Ericksen R. P. 2003. Smolt production and harvest of coho salmon from the Chilkat River, 2001–2002. Alaska Department of Fish and Game, Fishery Data Series, No. 03-28, Anchorage.

Johnson, R. E., R. P. Marshall, and S. T. Elliot. 1993. Chilkat River chinook salmon studies, 1992. Alaska Department of Fish and Game, Fishery Data Series No. 93-50, Anchorage.

Johnson, R. E. 1994. Chilkat River chinook salmon studies, 1993. Alaska Department of Fish and Game, Fishery Data Series No. 94-46, Anchorage.

Kelley, M. S. and R. L. Bachman. 1999. Chilkoot River weir results, 1998. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 1J99-25, Juneau.

McPherson, S. A. 1990. An inseason management system for sockeye salmon returns to Lynn Canal, Southeast Alaska. M. S. Thesis, University of Alaska Fairbanks.

McPherson, S., D. Bernard, J. H. Clark, K. Pahlke, E. Jones, J. Der Hovanisian, J. Weller, and R. Ericksen, 2003. Stock status and escapement goals for chinook salmon stocks in

Southeast Alaska. Alaska Department of Fish and Game, Special Publication No. 03-01, Anchorage.

Shaul, L. D. and K. F. Crabtree. 1998. Harvests, escapements, migratory patterns, smolt migrations, and survival of coho salmon smolts in southeast Alaska based on coded wire tagging, 1994–1996. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 1J98-02, Juneau.

Shaul, L., S. McPherson, E. Jones, and K. Crabtree. 2003. Stock status and escapement goals for coho salmon stocks in Southeast Alaska. Alaska Department of Fish and Game, Special Publication No. 03-02, Anchorage.

Table 1. Historical catches of king, sockeye, coho, pink, and chum salmon in the District 15 (Lynn Canal) drift gillnet fishery, 1960 to 2003.

	King				Sockeye				Coho				Pink				Chum					
Year	15-A	15-B	15-C	15 Total	15-A	15-B	15-C	15 Total	15-A	15-B	15-C	15 Total	15-A	15-B	15-C	15 Total	15-A	15-B	15-C	15 Total	Summer	Fall
60	1,453	0	0	1,453	59,603	1	0	59,604	9,998	966	0	10,964	1,760	0	0	1,760	58,254	308	0	58,562	1,180	57,382
61	683	0	0	683	67,839	21	0	67,860	15,499	2,757	0	18,256	25,503	0	0	25,503	122,873	4,477	0	127,350	8,016	119,334
62	806	0	0	806	103,696	0	0	103,696	24,436	0	0	24,436	2,041	0	0	2,041	115,036	0	0	115,036	3,733	111,303
63	275	1	0	276	57,517	1	0	57,518	34,628	468	0	35,096	13,689	0	0	13,689	102,183	185	0	102,368	1,554	100,814
64	771	0	0	771	68,200	0	0	68,200	33,347	0	0	33,347	6,602	0	0	6,602	103,047	0	0	103,047	1,192	101,855
65	1,735	0	0	1,735	89,045	1	0	89,046	38,418	663	0	39,081	4,222	0	0	4,222	206,292	270	0	206,562	4,108	202,454
66	865	3	0	868	108,060	26	0	108,086	39,598	1,196	0	40,794	6,004	4	0	6,008	233,759	1,413	0	235,172	3,657	231,515
67	1,171	0	0	1,171	66,621	0	0	66,621	66,109	0	0	66,109	14,677	0	0	14,677	165,874	0	0	165,874	3,477	162,397
68	1,488	0	1	1,489	79,937	0	67	80,004	39,606	0	3,656	43,262	7,776	0	27	7,803	159,776	0	9,839	169,615	3,519	166,096
69	1,599	0	19	1,618	127,628	0	241	127,869	33,828	0	1,199	35,027	5,129	0	3,867	8,996	156,800	0	3,867	160,667	3,554	157,113
70	1,733	0	38	1,771	78,734	0	381	79,115	38,916	0	9,727	48,643	19,271	0	568	19,839	230,833	0	40,582	271,415	4,555	266,860
71	2,908	0	21	2,929	74,774	0	373	75,147	39,535	0	9,647	49,182	6,095	0	61	6,156	238,269	0	32,891	271,160	21,395	249,765
72	923	0	63	986	79,287	0	1,723	81,010	50,834	0	7,137	57,971	13,346	0	1,174	14,520	322,259	0	27,422	349,681	19,050	330,631
73	2,341	0	131	2,472	192,579	0	1,122	193,701	17,704	0	8,449	26,153	14,099	0	452	14,551	236,899	0	42,432	279,331	16,238	263,093
74	1,607	0	64	1,671	142,187	0	9,827	152,014	44,745	0	20,064	64,809	4,079	0	924	5,003	372,671	0	71,295	443,966	5,749	438,217
75	815	0	1	816	18,265	0	73	18,338	43,560	0	13,983	57,543	3,242	0	13	3,255	214,035	0	24,747	238,782	46,199	192,583
76	2,044	0	24	2,068	122,735	0	3,887	126,622	49,167	0	22,817	71,984	3,866	0	563	4,429	329,974	0	45,052	375,026	5,173	369,853
77	1,156	0	58	1,214	159,312	0	767	160,079	50,453	0	40,973	91,426	130,644	0	216	130,860	152,923	0	48,711	201,634	5,577	196,057
78	457	0	79	536	105,491	0	2,989	108,480	26,084	0	27,081	53,165	3,260	0	551	3,811	82,443	0	35,985	118,428	7,845	110,583
79	3,554	0	18	3,572	192,692	0	282	192,974	23,426	0	3,589	27,015	28,752	0	11	28,763	225,713	0	17,119	242,832	7,006	235,826
80	434	0	6	440	53,096	0	891	53,987	26,120	0	2,778	28,898	79,441	0	2,902	82,343	157,515	0	11,338	168,853	19,888	148,965
81	1,083	2	215	1,300	81,740	1,289	10,166	93,195	30,452	109	14,089	44,650	112,471	4,107	20,692	137,270	90,619	508	26,248	117,375	13,215	104,160
82	5,878	1	66	5,945	268,290	160	5,432	273,882	47,719	78	24,573	72,370	67,415	126	1,509	69,050	271,659	37	34,889	306,585	5,337	301,248
83	1,993	5	121	2,119	349,884	155	19,791	369,830	53,622	66	15,822	69,510	134,319	452	22,775	157,546	311,510	1,116	28,519	341,145	19,303	321,842
84	5,822	13	264	6,099	320,277	3,759	10,546	334,582	43,637	58	24,520	68,215	68,611	2,128	7,261	78,000	552,232	10,177	79,829	642,238	59,567	582,671
85	2,753	177	330	3,260	233,972	7,736	61,533	303,241	64,547	414	33,329	98,290	169,644	6,079	63,357	239,080	582,649	12,377	103,784	698,810	77,806	621,004
86	2,141	41	590	2,772	248,264	1,100	40,541	289,905	48,046	4	34,071	82,121	31,927	34	6,154	38,115	305,610	1,357	74,415	381,382	18,987	362,395
87	3,021	2	200	3,223	381,856	1,244	32,236	415,336	31,195	15	22,541	53,751	124,066	430	41,255	165,751	295,663	548	96,727	392,938	26,698	366,240
88	1,136	27	94	1,257	327,330	17,469	7,000	351,799	50,984	410	30,142	81,536	193,991	10,343	4,070	208,404	284,127	28,664	64,792	377,583	60,206	317,377
89	1,478	33	444	1,955	351,706	9,249	110,959	471,914	29,484	98	20,725	50,307	61,365	291	48,798	110,454	90,735	3,508	29,388	123,631	28,813	94,818
90	364	16	290	670	248,878	3,612	104,928	357,418	36,260	48	26,764	63,072	48,645	1,247	51,207	101,099	122,157	2,908	85,477	210,542	84,282	126,260
91	462	0	283	745	275,428	0	32,383	307,811	23,031	0	105,334	128,365	3,815	0	1,657	5,472	100,121	0	110,068	210,189	100,627	109,562
92	225	0	385	610	230,229	0	55,806	286,035	30,021	0	78,732	108,753	243,297	0	108,265	351,562	114,157	0	131,090	245,247	132,505	112,742
93	302	0	439	741	119,754	0	53,359	173,113	7,499	0	52,453	59,952	680	0	10,656	11,336	62,190	0	244,376	306,566	229,284	77,282
94	253	4	723	980	111,061	80	60,588	171,729	55,925	13,805	71,034	140,764	57,648	2	89,627	147,277	155,172	4,482	525,795	685,449	529,380	156,069
95	56	0	772	831	41,570	505	34,351	88,572	21,093	11,632	43,696	79,949	883	0	14,641	5,799	62,206	1,332	494,792	568,368	493,279	75,089
96	106	0	491	642	65,031	0	41,354	149,961	16,525	0	29,885	52,658	1,290	0	958	2,358	55,321	0	337,709	415,547	340,021	75,526
97	280	0	487	834	52,669	0	42,413	118,348	2,034	0	12,558	15,572	13,601	0	36,864	32,962	28,410	0	425,122	461,614	431,699	29,915
98	375	0	304	679	114,467	0	20,470	134,937	7,003	0	19,115	26,118	22,260	0	10,091	32,351	29,933	0	130,736	160,669	136,515	24,154
99	373	0	180	553	145,917	0	17,613	163,530	4,478	0	30,852	35,330	36,989	0	25,748	62,737	46,947	0	303,947	350,894	290,325	60,569
00	140	0	157	297	76,732	0	32,648	109,380	7,652	0	27,984	35,636	15,938	0	5,070	21,008	66,848	0	686,181	753,029	680,536	72,493
01	373	0	1,229	1,672	57,055	0	90,756	147,811	10,932	0	23,283	34,215	26,709	0	41,009	67,718	66,024	0	377,501	443,525	358,987	84,538
02	64	0	518	582	41,677	6	40,326	82,014	23,823	12,574	41,544	77,941	37,938	0	50,106	88,044	44,184	632	620,869	665,685	625,743	39,518
03	71	0	594	665	57,370	74	37,692	95,136	17,769	10,408	28,929	57,106	33,936	0	19,685	53,621	35,487	2,114	356,287	393,888	348,820	45,672
Average 1993-02	232	0	537	781	82,587	59	43,400	133,944	15,696	3,801	35,241	55,814	21,393	0	28,477	47,158	61,729	645	415,220	481,657	412,078	69,579

Table 2. Biological escapement goals for Lynn Canal salmon stocks by species and location.

Species	Stock	Escapement Goal Type	Point Goal	Lower Escapement Goal	Upper Escapement Goal
Sockeye[a]	Chilkoot Lake Early	Weir Count	22,000	16,500	31,500
Sockeye[a]	Chilkoot Lake Late	Weir Count	40,000	34,000	60,000
Sockeye[a]	Chilkoot Lake Total	Weir Count	62,000	50,500	91,500
Sockeye[a]	Chilkat Lake Early	M-R Estimate	17,500	14,000	28,000
Sockeye[a]	Chilkat Lake Late	M-R Estimate	47,500	38,000	78,000
Sockeye[a]	Chilkat Lake Total	M-R Estimate	65,000	52,000	106,000
Coho[b]	Berners River	Peak Foot Count	6,300	4,000	9,200
King[c]	Chilkat River Combined	M-R Estimate	2,200	1,750	3,500

[a] From McPherson 1990.
[b] From Shaul, McPherson, Jones and Crabtree, 2003.
[c] From McPherson et al. 2003.

Table 3. Annual escapements of Chilkat Lake sockeye salmon by week, 1976 to 2003.

Mid-Week Date	Stat Week	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
5-Jun	23	0	0	0	0	0	0	0	0	0	0	0	0	0	62	0
12-Jun	24	1	0	22	6	0	0	0	0	0	0	0	0	0	689	202
19-Jun	25	0	214	476	44	72	3	0	0	302	0	0	0	0	5,802	639
26-Jun	26	433	305	1,302	698	887	0	31	368	1,441	7	4	88	59	10,690	3,615
3-Jul	27	944	572	8,622	6,930	1,152	5	532	1,248	5,436	98	2	1,777	2,015	7,845	1,660
10-Jul	28	2,437	773	2,751	2,081	3,560	141	605	11,144	623	1,317	602	2,197	496	2,295	4,353
17-Jul	29	1,140	207	11,816	8,576	4,355	549	461	15,284	3,280	1,141	139	5,601	9	8,126	9,566
24-Jul	30	2,055	542	1,310	4,068	4,575	1,071	2,515	8,935	6,011	334	20	2,542	722	15,810	2,380
31-Jul	31	2,816	711	1,814	1,413	2,100	1,002	1,743	10,750	929	812	24	1	1,969	3,161	1,449
7-Aug	32	310	1,184	40	2,056	2,100	266	3,496	6,865	141	2,029	1	123	1,965	4,340	1,925
14-Aug	33	2,740	725	1,078	5,895	2,100	729	509	4,254	2,971	157	3	1,776	200	11	380
21-Aug	34	9,810	968	1,634	7,288	5,666	1,450	4,073	5,589	1,417	1,555	138	1,875	566	3,207	2,948
28-Aug	35	4,283	1,269	1,246	11,212	6,910	767	5,151	1,433	14,899	4,434	736	6,193	280	7,582	7,167
4-Sep	36	6,799	18,711	5,670	3,639	10,351	4,967	1,575	5,475	18,015	3,271	1,006	1,618	469	8,379	9,647
11-Sep	37	17,483	8,664	6,106	19,464	29,613	18,652	6,091	10,526	18,512	3,372	5,364	27	7,973	15,019	259
18-Sep	38	9,655	144	7,747	12	10,739	1,113	20,378	21,097	21,106	12,639	6,943	259	2,254	34,155	664
25-Sep	39	5,584	5,821	9,469	2,353	7,015	6,134	25,516	9,455	17,510	17,688	3,796	18,033	2,747	2,713	4,465
2-Oct	40	0	234	6,334	1,413	3,374	32,516	7,467	9,398	2,252	5,258	3,762	6,165	4,551	2,936	3,552
9-Oct	41	3,001	0	91	2,125	778	10,222	78	7,305	424	2,009	831	0	655	3,053	4,456
16-Oct	42	238			1,316		4,502		5,081		1,603	576	318	663	4,600	904
Yearly Total		69,729	41,044	67,528	80,589	95,347	84,089	80,221	134,207	115,269	57,724	23,947	48,593	27,593	140,475	60,231
Weekly Mean		3,486	2,160	3,554	4,029	5,609	4,672	5,014	7,895	6,067	3,396	1,330	2,700	1,533	7,024	3,170
Early Stock		17,582	9,437	17,924	30,433	10,253	10,617	9,640	47,885	28,193	7,449	2,536	13,345	7,512	54,090	25,792
Late Stock		52,147	31,607	49,604	50,156	85,094	73,472	70,581	86,322	87,076	50,275	21,411	35,248	20,081	86,385	34,439

Mid-Week Date	Stat Week	1991	1992	1993	1994[a]	1995[a]	1996[a]	1997[a]	1998[a]	1999[a]	2000[a]	2001[a]	2002[a]	2003[a]	1976-02 Mean
5-Jun	23	1	0	0				0	0	0					3
12-Jun	24	44	10	0	0	57	0	476	395	270	53	105	716	232	113
19-Jun	25	305	53	75	0	2,232	0	1,857	2,562	1,140	3,861	392	4,920	2,318	924
26-Jun	26	901	1,016	1,745	1,510	5,323	2,720	3,618	6,382	5,737	14,933	4,580	6,464	3,562	2,772
3-Jul	27	1,600	1,653	3,557	3,456	8,471	11,051	11,759	12,307	12,659	13,238	5,014	7,027	4,688	4,838
10-Jul	28	1,971	1,762	4,240	8,223	9,674	32,814	5,951	10,495	26,856	10,034	6,595	7,533	3,123	5,982
17-Jul	29	503	6,529	3,552	5,125	9,387	28,393	5,713	12,343	16,442	9,594	12,139	7,084	5,019	6,928
24-Jul	30	2,812	5,034	7,615	8,025	18,775	28,308	13,187	9,500	20,819	8,399	19,314	9,486	4,220	7,562
31-Jul	31	2,234	2,263	5,336	8,184	17,172	26,778	16,044	10,900	14,853	7,176	12,945	12,310	4,921	6,181
7-Aug	32	3,724	3,579	6,490	9,375	17,973	42,335	22,138	15,897	17,906	8,886	20,775	15,830	18,107	7,843
14-Aug	33	1,821	1,197	14,537	34,085	15,054	22,358	11,283	17,350	21,197	9,347	11,512	14,877	27,532	7,339
21-Aug	34	4,295	5,768	6,643	17,559	25,643	17,767	9,617	16,221	20,962	11,167	10,196	10,830	26,796	7,587
28-Aug	35	10,732	10,357	23,593	16,367	21,007	21,848	14,521	19,738	20,035	7,145	9,084	10,606	28,136	9,578
4-Sep	36	5,380	13,172	19,677	19,346	13,394	13,942	18,044	12,723	9,563	9,647	9,641	14,001	28,322	9,560
11-Sep	37	2,260	6,014	1,251	18,274	20,377	14,112	27,518	19,149	10,180	5,595	3,139	7,576	14,925	11,206
18-Sep	38	3,264	8,779	61,222	4,012		425	42,800	12,857	13,788	6,492	2,813	2,497	9,537	11,841
25-Sep	39	1,873	22,150	32,323				9,474	18,121	10,382	3,009	2,519	1,420	7,122	9,982
2-Oct	40	1,091	6,171	297				21,328	10,598	10,685	1,742	924	947		5,958
9-Oct	41	1,427	1,891	2,947				3,475	3,163	2,899	1,003		301		2,267
16-Oct	42	6,651	342	14,630					413						2,988
Yearly Total		52,889	97,740	209,730	153,540	184,541	262,852	238,803	211,114	236,374	131,322	131,687	134,424	188,561	117,467
Weekly Mean		2,644	5,144	10,487	10,236	13,182	17,523	11,940	10,556	12,441	7,296	7,746	7,468	11,785	6,604
Early Stock		15,916	23,096	47,147	43,897	89,065	172,400	80,744	80,781	116,682	76,175	81,859	71,370	46,190	43,146
Late Stock		36,973	74,644	162,583	109,643	95,476	90,451	158,059	130,333	119,692	55,147	49,828	63,055	142,371	78,306

[a] Total escapement estimates from mark-recapture program, weekly escapement numbers are derived from fish wheel CPUE and stock composition data.

Table 4. Annual harvests of Chilkat Lake sockeye salmon by week, 1976 to 2003.

Mid-Week Date	Stat Week	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
19-Jun	25	384		4,385	1,512	603	1,539	469		2,248	408	88			7,596	1,719
26-Jun	26	4,605	5,041	1,343	3,243	166	1,960	2,139	1,084	4,907	1,725	357	1,880	2,379	8,490	2,406
3-Jul	27	4,624	9,089		25		1,821	3,529	1,868	5,696	1,633	1,302	3,530	3,482	10,439	6,306
10-Jul	28	4,146	1,577	1,048	4,936		1,494	2,919	5,603	4,790	5,139	625	1,516	4,920	11,161	4,405
17-Jul	29	897	2,205	1,832	5,512		2,504	2,626	4,457	9,051	4,318	1,858	6,810	7,598	12,833	3,688
24-Jul	30	1,740	1,044	3,218	13,220	2,110	5,100	1,103	7,382	8,136	3,137	2,209	5,038	3,405	9,805	10,257
31-Jul	31	1,459	1,130	20,294	18,107	1,301	2,121	11,392	8,243	8,366	9,150	2,242	6,072	8,507	12,833	9,923
7-Aug	32	9,420	3,318	18,939	28,212	3,450	5,668	27,126	17,604	12,062	9,676	10,774	15,278	6,497	30,913	25,025
14-Aug	33	11,682	4,625	22,490	15,870	8,237	1,017	30,199	18,777	18,396	11,336	30,803	9,454	13,369	18,492	35,214
21-Aug	34	11,496	5,217	11,334	16,101	6,844	1,980	14,475	11,718	6,390	26,250	45,502	8,166	6,771	18,034	
28-Aug	35	7,997	6,123	3,138	6,339	6,889	18,720	16,202	20,923	6,528	35,316	14,617	6,456	6,728	13,465	29,780
4-Sep	36	497	1,482	1,233	1,471	681	3,130	10,675	19,799	4,898	16,834	44,362	2,494	6,637	3,833	14,282
11-Sep	37	257	318	256	685	207	1,000	1,913	5,148	3,997	7,808	7,719	1,825	3,518	1,231	3,761
18-Sep	38-42	124	220	48	761	193	406	2,269	1,282	2,766	2,773	5,903	1,550	2,662	321	290
Yearly Total		59,328	41,389	89,558	115,994	30,681	48,460	127,036	123,888	98,231	135,503	168,361	70,069	76,473	159,446	147,056
Weekly Mean		4,238	3,184	6,889	8,285	2,789	3,461	9,074	9,530	7,017	9,679	12,026	5,390	5,883	11,389	11,312
Early Stock Catch		9,514	13,064	8,023	29,065	1,984	12,885	26,257	32,908	43,208	23,540	15,333	24,571	25,500	60,963	2,972
Late Stock Catch		49,814	28,325	81,535	86,929	28,697	35,575	100,779	90,980	55,023	111,963	153,028	45,498	50,973	98,483	144,084

Mid-Week Date	Stat Week	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1976-03 Mean
19-Jun	25	1,211		2,283	0	2,283	987	3,146				1,654	1,900	439	1,743
26-Jun	26	1,826	2,436	1,141	4,752	1,698	3,234	2,950	2,841	4,398	3,463	3,773	2,008	714	2,749
3-Jul	27	1,557	4,627	2,563	6,768	2,002	929	3,398	7,888	6,643	7,770	5,788	3,591	1,036	4,150
10-Jul	28	1,931	3,548	5,547	7,677	4,884	1,597	2,387	14,463	15,656	8,301	7,710	3,272	1,310	4,910
17-Jul	29	2,389	5,687	5,865	11,756	1,971	2,512	2,756	16,274	17,622	6,444	11,333	5,618	1,410	5,845
24-Jul	30	2,116	5,647	2,926	6,452	2,082	2,869	2,588	14,006	14,618	7,003	7,017	5,230	2,707	5,434
31-Jul	31	4,060	5,562	3,981	9,597	2,611	8,008	7,596	13,211	11,890	9,097	6,702	4,328	3,549	7,548
7-Aug	32	6,478	11,688	7,123	11,775	4,543	16,233	9,590	18,128	16,818	12,451	6,877	8,192	6,176	12,858
14-Aug	33	6,049	24,426	11,967	12,141	5,764	17,426	6,066	12,852	11,762	9,030	4,846	2,378	9,475	13,719
21-Aug	34	10,037	9,648	26,518	11,760	18,943	19,743	11,031	9,738	14,708	7,443	895	3,979	7,985	12,693
28-Aug	35	8,691	26,558	14,515	18,913	7,195	9,872	11,544	4,875	15,698	3,992	1,052	3,818	7,623	11,913
4-Sep	36	6,056	9,517	10,273	12,759	4,375	6,742	4,627	2,687	9,653	3,198	905	2,316	5,778	7,543
11-Sep	37	5,466	2,220	4,650	7,863	2,996	3,977	2,378	2,197	5,969	449	257	587	1,817	2,874
18-Sep	38-42	1,939	323	1,365	0	2,048	2,251	0	1,485	4,261	228	138	74	190	1,281
Yearly Total		59,806	111,887	100,717	122,212	63,396	96,380	70,056	120,644	149,697	78,868	58,948	47,292	50,209	93,628
Weekly Mean		4,272	8,607	7,194	8,729	4,528	6,884	5,004	9,280	11,515	6,067	4,407	3,492	3,828	6,927
Early Stock Catch		11,030	21,945	20,325	37,404	14,920	12,129	17,225	55,472	58,938	54,528	49,200	32,239	16,902	26,144
Late Stock Catch		48,776	89,942	80,392	84,808	48,476	84,251	52,831	65,172	90,759	24,340	8,093	13,153	32,868	67,341

Table 5. Chilkat Lake sockeye salmon smolt age, weight, and length compositions (wild and enhanced components), 1989–1990 and 1994–2003.

Year	Total Outmigration	Fry Stocked	Total Wild	Total Enhanced	% Enhanced	Enhanced Survival %	Wild age-1.0	Enhanced age-1.0	Wild age-2.0	Enhanced age-2.0	Wild age-3.0	Enhanced age-3.0
1989	2,000,000		2,000,000				1,520,000		480,000			
1990	2,600,000		2,600,000				702,000		1,898,000			
1994	2,367,891	4,400,000	2,367,891				1,207,624		1,160,267			
1995	1,890,876	2,393,558	1,210,977	686,436	36.0%	23.1%	403,217	686,436	801,223	n/a	6,537	
1996	2,869,690	2,691,311	2,269,741	599,419	21.0%	27.7%	939,393	269,365	1,325,183	330,054	5,165	
1997	1,514,194	2,806,858	1,039,634	476,225	31.0%	4.9%	113,201	98,786	918,711	377,439	7,722	
1998	1,386,118	0	1,115,700	270,418	19.5%	23.8%	666,224	220,892	340,569	33,683	108,907	15,843
1999	1,809,273	0	1,362,342	446,931	24.7%		620,377	n/a	716,718	446,931	25,247	n/a
2000	1,629,883	0	1,629,883	n/a	n/a		115,214	n/a	1,509,020	n/a	5,649	n/a
2001	1,398,802	2,698,874	1,398,802	n/a	n/a		657,269	n/a	694,397	n/a	47,136	n/a
2002	434,411	0	432,608	1,803	0.4%		114,619	1,803	316,686	n/a	869	n/a
2003	1,458,025	0	1,401,462	56,563	3.9%		840,998	n/a	549,390	56,563	11,075	n/a
Avg	1,779,930	1,499,060	1,569,087	413,539	19.5%	19.9%	658,345	255,456	892,514	248,934	24,256	15,843

	Age %			AVG Length			AVG Weight		
Year	% age-1.0	% age-2.0	% age-3.0	mm. age-1.0	mm. age-2.0	mm. age-3.0	g. age-1.0	g. age-2.0	g. age-3.0
1989	76.0%	24.0%		100.2	121.0		8.9	14.6	
1990	27.0%	73.0%		103.9	118.9		10.0	14.8	
1994	51.0%	49.0%		102.3	119.5		9.9	14.8	
1995	62.0%	37.0%	4.0%	92.5	115.4	147.4	7.1	13.2	27.2
1996	42.0%	58.0%	2.0%	86.3	107.2	185.0	5.7	10.3	56.0
1997	13.0%	86.0%	1.0%	95.2	101.2	154.5	7.0	8.8	34.4
1998	64.0%	27.0%	9.0%	92.7	109.4	138.3	7.3	11.2	22.7
1999	34.0%	64.0%	2.0%	88.1	107.6	155.8	5.3	9.5	37.7
2000	7.1%	92.6%	0.3%	93.8	104.8	120.4	7.1	9.4	14.3
2001	47.0%	49.6%	3.4%	92.5	113.4	131.5	6.8	11.8	19.0
2002	26.8%	72.9%	0.2%	85.5	92.7	175.0	5.2	6.3	38.7
2003	75.3%	24.1%	0.6%	88.9	111.4	136.9	5.9	11.4	21.1
Avg	43.8%	54.8%	2.5%	93.5	110.2	149.4	7.2	11.3	30.1

Table 6. Yearly preseason forecast compared to the estimated total return of adult Chilkat Lake sockeye salmon, 1992, 1997–2003.

Year	Pre-season Forecast	Estimated Total Return	Difference Forecast vs. TR	Percent Difference
1992	218,000	209,627	8,373	3.84%
1993[a]	N/A	310,447	N/A	N/A
1994	N/A	275,752	N/A	N/A
1995	N/A	247,937	N/A	N/A
1996	N/A	359,232	N/A	N/A
1997	266,974	308,859	-41,885	-15.69%
1998	262,123	430,106	-167,982	-64.09%
1999	295,520	386,071	-103,302	-34.96%
2000	177,093	210,190	-33,097	-18.69%
2001	151,307	190,635	-39,328	-25.99%
2002	175,546	181,717	-6,172	-3.52%
2003	156,056	167,018	-10,962	-9.34%
2004	115,101	-	-	-
92, 97-2003 Avg.	201,969	274,195	-49,294	-21.06%

[a] No forecast due to incomplete smolt data.

*Escapement for years 1995-2003 based on mark-recapture methods.

Source: ADF&G

Table 7. Annual total return of Chilkat Lake sockeye salmon by week, 1976 to 2003.

Mid-Week Date	Stat Week	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
5-Jun	23	0	0	0	0	0	0	0	0	0	0	0	0	0	62	0
12-Jun	24	1	0	22	6	0	0	0	0	0	0	0	0	0	689	202
19-Jun	25	384	214	4,861	1,556	675	1,542	469	0	2,550	408	88	0	0	13,398	2,358
26-Jun	26	5,038	5,346	2,645	3,941	1,053	1,960	2,170	1,452	6,348	1,732	361	1,968	2,438	19,180	6,021
3-Jul	27	5,568	9,661	8,622	6,955	1,152	1,826	4,061	3,116	11,132	1,731	1,304	5,307	5,497	18,284	7,966
10-Jul	28	6,583	2,350	3,799	7,017	3,560	1,635	3,524	16,747	5,413	6,456	1,227	3,713	5,416	13,456	8,758
17-Jul	29	2,037	2,412	13,648	14,088	4,355	3,053	3,087	19,741	12,331	5,459	1,997	12,411	7,607	20,959	13,254
24-Jul	30	3,795	1,586	4,528	17,288	6,685	6,171	3,618	16,317	14,147	3,471	2,229	7,580	4,127	25,615	12,637
31-Jul	31	4,275	1,841	22,108	19,520	3,401	3,123	13,135	18,993	9,295	9,962	2,266	6,073	10,476	15,994	11,372
7-Aug	32	9,730	4,502	18,979	30,268	5,550	5,934	30,622	24,469	12,203	11,705	10,775	15,401	8,462	35,253	26,950
14-Aug	33	14,422	5,350	23,568	21,765	10,337	1,746	30,708	23,031	21,367	11,493	30,806	11,230	13,569	18,503	35,594
21-Aug	34	21,306	6,185	12,968	23,389	12,510	3,430	18,548	17,307	7,807	27,805	45,640	10,041	7,337	21,241	2,948
28-Aug	35	12,280	7,392	4,384	17,551	13,799	19,487	21,353	22,356	21,427	39,750	15,353	12,649	7,008	21,047	36,947
4-Sep	36	7,296	20,193	6,903	5,110	11,032	8,097	12,250	25,274	22,913	20,105	45,368	4,112	7,106	12,212	23,929
11-Sep	37	17,740	8,982	6,362	20,149	29,820	19,652	8,004	15,674	22,509	11,180	13,083	1,852	11,491	16,250	4,020
18-Sep	38-42	18,602	6,419	23,689	7,980	22,099	54,893	55,708	53,618	44,058	41,970	21,811	26,325	13,532	47,778	14,331
Yearly Total		129,057	82,433	157,086	196,583	126,028	132,549	207,257	258,095	213,500	193,227	192,308	118,662	104,066	299,921	207,287
Weekly Mean		8,066	5,152	9,818	12,286	7,877	8,284	12,954	16,131	13,344	12,077	12,019	7,416	6,504	18,745	12,955
Early Stock		37,411	27,912	79,212	100,639	26,431	25,244	60,686	100,835	73,419	40,924	20,247	52,453	44,023	162,890	89,518
Late Stock		91,646	54,521	77,874	95,944	99,597	107,305	146,571	157,260	140,081	152,303	172,061	66,209	60,043	137,031	117,769

Mid-Week Date	Stat Week	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1976-03 Mean
5-Jun	23	1	0	0	0	0	0	0	0	0	0	0	0	0	2
12-Jun	24	44	10	0	0	57	0	476	592	258	53	105	716	144	121
19-Jun	25	1,516	53	2,358	0	4,516	987	5,003	4,308	1,127	3,861	2,046	6,820	1,875	2,249
26-Jun	26	2,727	3,452	2,886	6,261	7,021	5,954	6,569	14,634	10,292	18,395	8,353	8,472	2,920	5,700
3-Jul	27	3,157	6,280	6,120	10,224	10,474	11,981	15,157	29,804	20,235	21,008	10,802	10,618	3,940	8,999
10-Jul	28	3,902	5,310	9,787	15,900	14,557	34,411	8,338	31,533	46,640	18,335	14,305	10,805	3,244	10,954
17-Jul	29	2,892	12,216	9,417	16,880	11,359	30,905	8,469	36,090	35,884	16,039	23,472	12,702	4,519	12,760
24-Jul	30	4,928	10,681	10,541	14,476	20,856	31,177	15,775	31,506	39,289	15,403	26,331	14,716	5,321	13,243
31-Jul	31	6,294	7,825	9,317	17,780	19,782	34,786	23,640	32,112	28,573	16,273	19,647	16,638	6,598	13,968
7-Aug	32	10,202	15,267	13,613	21,151	22,516	58,568	31,728	41,282	36,690	21,336	27,652	24,022	17,393	21,151
14-Aug	33	7,870	25,623	26,504	46,225	20,818	39,784	17,349	36,814	33,663	18,377	16,358	17,255	26,531	21,666
21-Aug	34	14,332	15,416	33,161	29,319	44,587	37,510	20,648	31,761	35,772	18,609	11,091	14,809	24,585	20,359
28-Aug	35	19,423	36,915	38,108	35,280	28,202	31,720	26,064	31,529	35,087	11,137	10,136	14,424	25,053	21,995
4-Sep	36	11,436	22,689	29,950	32,105	17,769	20,683	22,670	19,649	19,154	12,845	10,546	16,317	23,323	17,537
11-Sep	37	7,726	8,234	5,901	26,137	23,374	18,089	29,896	27,720	15,695	6,044	3,396	8,163	11,063	14,222
18-Sep	38-42	16,245	39,656	112,784	4,012	2,048	2,676	77,078	60,233	40,462	12,474	6,395	5,239	10,510	30,094
Yearly Total		112,695	209,627	310,447	275,752	247,937	359,232	308,859	430,106	398,822	210,190	190,635	181,717	167,018	215,039
Weekly Mean		7,043	13,102	19,403	17,235	15,496	22,452	19,304	26,848	24,926	14,013	12,709	12,114	11,135	13,550
Early Stock		35,663	61,094	64,039	102,673	111,138	208,770	115,155	221,860	218,988	130,703	132,713	105,509	45,955	89,147
Late Stock		77,032	148,533	246,408	173,079	136,798	150,462	193,705	207,707	179,834	79,487	57,921	76,208	121,064	125,873

Table 8. Weekly and annual escapement of Chilkat River mainstem sockeye salmon, 1994–2003.

Mid-Week Date	Stat Week	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1994-03 Mean
2-Jun	23											
9-Jun	24		27		69	35	0	53	51	102	48	48
16-Jun	25		1,410		270	610	24	309	55	1,838	1,019	692
23-Jun	26	137	2,867	585	162	2,020	254	2,222	1,294	5,158	4,162	1,886
30-Jun	27	1,061	3,700	4,428	1,189	1,503	932	5,817	2,254	7,349	7,761	3,599
7-Jul	28	3,427	3,529	12,508	1,059	1,530	3,289	8,440	2,261	6,457	5,623	4,812
14-Jul	29	1,434	3,116	10,239	1,433	1,751	1,593	13,472	3,145	5,313	4,448	4,595
21-Jul	30	2,242	4,283	11,416	3,277	1,763	2,964	7,805	6,645	4,159	2,757	4,731
28-Jul	31	2,720	3,140	6,615	2,845	2,258	1,521	8,025	2,627	5,123	2,668	3,754
4-Aug	32	3,170	1,588	5,207	2,222	662	1,675	4,944	2,330	2,248	3,706	2,775
11-Aug	33	8,431	1,229	1,036	613	635	997	2,318	964	1,264	2,011	1,950
18-Aug	34	1,882	449	661	371	129	623	657	209	1,050	1,546	758
25-Aug	35	886	740	398	430	254	150	139	34	456	1,100	459
1-Sep	36	691		217	140	0	224	65	29	505	256	236
8-Sep	37	105		59	377	48	0		26			102
15-Sep	38				180		77					128
22-Sep	39											
29-Sep	40-42											
Yearly Total		26,186	26,080	53,369	14,699	13,196	14,324	54,266	21,925	41,022	37,105	30,217
Weekly Mean		2,182	2,173	4,447	976	943	955	4,174	1,566	3,156	2,854	2,343

Note: Estimates based on mark-recapture methods. Weekly estimates are calculated from stock proportions of sockeye salmon captured in the lower Chilkat River fish wheels.

Table 9. Annual harvests of Chilkat River mainstem and Berners Bay rivers, and other non-Chilkat or Chilkoot Lake, sockeye salmon by week, 1976 to 2003.

Mid-Week Date	Stat Week	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
19-Jun	25	60	0	548	504	381	143	44	0	355	134	16	0	0	3,214	1,823
26-Jun	26	694	2,653	1,759	1,328	56	101	210	49	514	1,688	599	734	968	3,381	1,783
3-Jul	27	963	1,330	207	0	725	145	145	255	491	5,173	1,233	6,958	6,611	2,440	6,998
10-Jul	28	1,194	332	386	494	158	150	155	294	383	6,691	4,365	983	4,889	1,742	2,221
17-Jul	29	375	848	316	501	73	181	175	105	309	273	738	872	5,100	2,030	1,054
24-Jul	30	735	116	577	1,414	0	116	172	268	561	522	897	263	1,057	1,725	4,601
31-Jul	31	204	0	486	1,942	76	154	549	1,204	706	746	597	330	1,316	2,922	4,669
7-Aug	32	227	0	0	0	75	67	128	740	536	448	903	350	442	1,956	4,251
14-Aug	33	151	0	269	165	8	0	329	663	244	377	948	111	348	366	3,088
21-Aug	34	132	98	74	492	3	14	0	256	73	68	825	121	101	494	0
28-Aug	35	76	0	29	195	3	0	0	78	130	48	206	22	100	233	297
4-Sep	36	8	0	6	35	0	0	0	42	48	0	87	0	122	98	216
11-Sep	37	0	0	1	14	0	0	0	1	0	10	0	7	23	19	40
18-Sep	38-42	23	0	0	32	0	0	1	0	0	0	0	0	33	5	3
Yearly Total		4,842	5,377	4,658	7,116	1,558	1,071	1,908	3,955	4,350	16,178	11,414	10,751	21,110	20,625	31,044
Weekly Mean		346	384	333	508	111	77	136	283	311	1,156	815	768	1,508	1,473	2,217

Mid-Week Date	Stat Week	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1976-03 Mean
19-Jun	25	2,213	0	0		1,282	1,828	1,466				1,451	385	332	674
26-Jun	26	6,782	4,926	2,321	1,178	1,165	3,309	1,441	1,309	1,818	204	4,376	388	1,197	1,676
3-Jul	27	4,097	8,241	4,258	2,418	976	1,245	2,070	820	535	2,007	6,071	1,502	2,782	2,525
10-Jul	28	2,470	5,650	3,296	2,135	1,696	1,743	1,046	1,050	937	14,631	2,289	3,249	2,032	2,381
17-Jul	29	3,451	4,275	3,012	2,619	744	2,311	1,133	4,122	2,444	4,572	4,000	2,193	1,597	1,765
24-Jul	30	1,012	3,327	2,757	1,323	799	2,660	1,447	1,509	1,124	3,016	1,083	902	839	1,244
31-Jul	31	1,729	2,488	1,738	2,400	457	5,535	1,495	1,520	1,093	1,594	1,331	1,123	1,804	1,436
7-Aug	32	1,138	2,356	879	2,236	385	5,695	769	921	949	581	537	317	663	984
14-Aug	33	224	1,422	433	2,291	250	2,916	168	293	417	209	198	243	930	609
21-Aug	34	151	280	246	1,623	396	1,051	278	102	108	61	0	124	157	262
28-Aug	35	635	280	33	723	100	333	210	31	59	29	24	8	42	140
4-Sep	36	0	184	12	263	90	145	95	6	85	0	0	11	167	61
11-Sep	37	38	0	0	32	61	87	24	21	0	0	0	3	52	15
18-Sep	38-42	24	0	0	11	29	34	0	0	5	0	0	0	5	7
Yearly Total		23,964	33,429	18,985	19,252	8,430	28,893	11,642	11,704	9,575	26,903	21,361	10,447	12,599	13,684
Weekly Mean		1,712	2,388	1,356	1,481	602	2,064	832	900	737	2,069	1,526	746	900	991

Table 10. Annual weir counts of Chilkoot Lake sockeye salmon by week, 1976 to 2003.

Date	Stat. Week	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
2-Jun	23	124	14	844	3	0	0	0	0	333	8	25	11	0	571	328
9-Jun	24	623	9,572	1,957	8,738	0	25	252	467	3,349	6	101	176	95	4,266	2,060
16-Jun	25	241	35,751	1,368	2,730	391	1,108	12,220	2,764	11,100	104	163	198	1,082	21,300	2,778
23-Jun	26	3,579	11,150	274	469	1,157	2,177	9,440	8,860	7,444	4,681	224	16,583	1,506	2,466	12,190
30-Jun	27	735	3,361	6,677	407	1,824	559	2,623	4,062	4,406	783	857	6,879	22,846	1,009	1,893
7-Jul	28	397	6,970	1,311	309	2,241	606	1,981	3,304	9,993	463	3,650	3,365	5,872	913	1,980
14-Jul	29	1,752	1,844	2,526	95	5,894	7,346	5,095	4,090	6,738	810	2,328	7,000	4,389	2,122	0
21-Jul	30	4,091	1,854	7,650	2,871	9,239	15,951	17,574	21,548	11,917	3,601	5,467	8,134	2,554	2,942	4,989
28-Jul	31	28,061	9,016	3,465	22,765	8,294	9,006	20,806	12,747	9,610	19,778	11,438	8,998	5,416	3,614	1,853
4-Aug	32	13,587	9,561	5,157	31,000	20,860	9,963	13,358	4,507	8,020	9,832	21,563	9,944	5,824	4,313	1,995
11-Aug	33	11,827	6,059	2,316	16,091	21,333	15,631	8,287	3,614	5,522	12,501	12,276	5,899	5,683	2,157	4,255
18-Aug	34	5,205	1,019	1,469	5,140	12,968	10,659	4,938	2,720	11,185	7,013	11,839	16,978	10,851	2,793	13,553
25-Aug	35	346	372	155	3,880	10,669	5,028	2,655	3,016	3,435	4,432	6,348	6,018	6,650	3,067	13,734
1-Sep	36	49	403	56	933	1,077	4,519	1,518	4,366	4,474	2,817	5,416	3,918	4,544	1,840	9,147
8-Sep	37	118	103	106	427	479	794	1,404	2,604	2,891	1,546	5,071	738	2,646	876	2,128
15-Sep	38	410	2	83	8	45		822	1,070		480	762	217	759	232	365
22-Sep	39	142		12	70	36			502		145	409	112	381	216	5
29-Sep	40-42	10		28	10	5			102		26	87	17	176	203	71
Yearly Total		71,297	97,051	35,454	95,946	96,512	83,372	102,973	80,343	100,417	69,026	88,024	95,185	81,274	54,900	73,324
Weekly Mean		3,961	6,066	1,970	5,330	6,032	5,955	6,436	4,464	6,694	3,835	4,890	5,288	4,781	3,050	4,074
Early Stock Esc.		6,737	69,268	10,349	13,026	14,196	8,144	29,127	21,545	37,489	9,424	17,210	29,141	30,765	29,561	21,229
Late Stock Esc.		64,560	27,783	25,105	82,920	82,316	75,228	73,846	58,798	62,928	59,602	70,814	66,044	50,509	25,339	54,870

Date	Stat. Week	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1976-03 Average
2-Jun	23	1	31	65	309	185	0	873	0	1		89	102	15	146
9-Jun	24	471	4,744	249	2687	295	129	2317	117	59	174	265	2,005	342	1,626
16-Jun	25	5,599	8,775	2,592	1,117	243	459	6,677	327	143	413	2,811	2,451	448	4,477
23-Jun	26	3,083	2,310	5,431	4,752	342	1,418	3,433	664	521	2,494	4,171	3,195	1,165	4,114
30-Jun	27	2,097	8,450	2,306	4,170	317	1,956	1,407	857	1,980	2,208	3,125	1,869	2,805	3,302
7-Jul	28	2,528	975	5,883	4,241	298	4,393	3,143	676	884	2,558	3,083	4,138	4,074	2,865
14-Jul	29	5,436	1,222	3,488	1,141	325	2,482	2,440	791	668	3,385	7,953	6,193	7,207	3,384
21-Jul	30	21,990	2,902	5,021	2,123	1,517	12,040	4,805	1,534	1,734	5,154	11,168	10,433	11,437	7,580
28-Jul	31	17,870	9,488	5,864	5,158	1,731	9,163	3,919	1,687	2,706	4,756	21,480	7,599	21,041	10,262
4-Aug	32	7,317	7,173	6,807	1,342	417	6,743	3,524	1,924	1,864	6,359	11,231	4,775	14,103	8,681
11-Aug	33	8,229	10,572	4,298	2,140	545	3,867	2,606	1,352	1,041	6,344	5,094	2,994	5,677	6,722
18-Aug	34	4,115	2,530	4,857	3,220	237	2,655	4,246	1,217	1,108	2,699	2,320	4,764	1,251	5,484
25-Aug	35	5,077	3,531	2,222	2,736	270	2,919	2,880	678	3,058	3,067	2,064	3,322	3,564	3,757
1-Sep	36	3,988	2,549	899	1,656	472	1,081	1,540	261	2,262	3,246	1,182	3,716	902	2,458
8-Sep	37	1,879	1,200	1,427	624	15	969	444	216	990	559	247	805	428	1,133
15-Sep	38	416	346	418			465		34	265	139				367
22-Sep	39	294	273												200
29-Sep	40-42	248													82
Yearly Total		90,638	67,071	51,827	37,416	7,209	50,739	44,254	12,335	19,284	43,555	76,283	58,361	74,459	66,376
Weekly Mean		5,035	3,726	2,879	2,459	401	2,819	2,459	685	1,071	2,904	5,086	3,891	4,964	3,972
Early Stock Esc.		16,497	25,285	16,526	17,276	1,680	8,355	17,850	2,641	3,588	7,847	13,544	16,733	12,308	18,119
Late Stock Esc.		74,141	41,786	35,301	20,140	5,529	42,384	26,404	9,694	15,696	35,708	62,739	41,628	62,151	48,356

Table 11. Annual harvests of Chilkoot Lake sockeye salmon by week, 1976 to 2003.

Mid-Week Date	Stat Week	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
16-Jun	25	242		2,428	2,072	921	2,286	2,217		2,173	526	251			5,673	2,284
23-Jun	26	2,891	22,024	733	1,719	322	2,078	3,832	1,315	6,760	2,294	423	4,838	4,591	12,640	2,546
30-Jun	27	2,457	17,624		2,425		1,750	4,349	2,574	7,686	2,589	2,135	16,332	5,961	12,466	8,019
7-Jul	28	2,953	13,860	1,093	11,723		2,740	5,325	3,882	8,885	6,463	1,035	4,660	14,662	27,293	7,958
14-Jul	29	3,087	16,535	2,458	1,002		9,464	5,585	3,839	21,330	2,046	1,697	44,328	25,161	43,692	13,233
21-Jul	30	6,006	8,698	1,523	5,193	945	8,159	11,347	19,770	49,673	4,595	2,342	46,056	22,721	34,439	41,331
28-Jul	31	2,422	11,583	2,883	7,114	1,931	11,679	36,013	49,231	47,278	17,492	2,068	42,042	48,921	61,509	29,768
4-Aug	32	23,153	11,734	971	25,146	6,974	2,165	28,481	40,832	37,997	23,836	7,901	85,999	40,664	43,957	34,731
11-Aug	33	2,424	6,773	1,133	5,786	6,955	1,578	21,656	41,120	20,685	19,764	21,361	41,439	43,995	33,639	28,539
18-Aug	34	2,381	3,803	738	4,879	1,293	952	16,192	22,533	15,902	48,615	37,864	32,383	14,181	8,205	
25-Aug	35	13,008	511	204	1,921	1,302	539	8,310	28,181	9,903	12,833	20,961	13,503	21,734	5,245	4,758
1-Sep	36	808	124	80	446	128	232	754	21,668	2,980	9,550	9,762	2,537	8,951	2,497	3,068
8-Sep	37	419	26	17	207	39	121	461	5,190	367	1,271	2,206	728	1,931	369	2,440
15-Sep	38-42	201	18	3	231	36	49	70	1,334	173	451	424	150	495	239	189
Yearly Total		62,452	113,313	14,264	69,864	20,846	43,792	144,592	241,469	231,792	152,325	110,430	334,995	253,968	291,863	178,864
Weekly Mean		4,461	8,716	1,097	4,990	1,895	3,128	10,328	18,575	16,557	10,880	7,888	25,769	19,536	20,847	13,759
Early Stock Catch		8,543	53,508	4,254	17,939	1,243	8,854	15,723	7,771	25,504	11,872	3,844	25,830	25,214	58,072	20,807
Late Stock Catch		53,909	59,805	10,010	51,925	19,603	34,938	128,869	233,698	206,288	140,453	106,586	309,165	228,754	233,791	158,057

Mid-Week Date	Stat Week	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1976-03 Average
16-Jun	25	2,701				1,504	1,403	6,934				1,117	976	261	1,998
23-Jun	26	4,103	7,116	7,692	3,879	1,165	3,971	5,352	160	338	143	4,854	923	464	3,899
30-Jun	27	2,933	12,867	9,424	4,682	1,015	1,618	4,492	112	201	592	6,840	2,236	1,285	5,179
7-Jul	28	6,536	9,143	6,134	2,763	1,866	1,594	1,682	233	386	2,138	5,026	3,319	1,714	5,743
14-Jul	29	8,095	14,276	5,786	2,619	744	578	2,322	450	658	2,772	12,166	3,791	769	9,203
21-Jul	30	8,141	13,654	3,724	1,228	237	779	3,061	330	450	2,392	10,266	2,665	1,186	11,104
28-Jul	31	35,267	13,496	4,510	2,400	213	3,355	4,293	380	342	3,810	10,375	3,491	7,308	16,470
4-Aug	32	49,985	18,479	2,502	2,609	144	2,983	251	167	769	799	13,110	4,947	10,154	18,623
11-Aug	33	36,144	19,574	3,500	2,291	250	1,346	180	117	288	913	3,284	1,054	6,043	13,280
18-Aug	34	37,354	12,852	3,089	1,298	396	525	159	76	270	323	203	577	1,637	9,951
25-Aug	35	19,334	12,929	2,214	904	232	444	117	140	0	129	140	126	522	6,434
1-Sep	36	7,322	4,612	2,131	526	90	145	48	19	255	48	85	134	728	2,847
8-Sep	37	5,089	1,503	583	97	61	87	24	21	235	42	24	34	229	851
15-Sep	38-42	1,037	218	135	119	29	34	0		66	32	12	4	24	214
Yearly Total		224,041	140,719	51,424	25,414	7,946	18,861	28,913	2,206	4,258	14,133	67,502	24,275	32,324	103,816
Weekly Mean		16,003	10,825	3,956	1,955	568	1,347	2,065	184	328	1,087	4,822	1,734	2,309	7,700
Early Stock Catch		16,273	29,126	23,250	11,323	5,550	8,586	18,459	505	925	2,873	17,838	7,454	3,724	15,531
Late Stock Catch		207,768	111,593	28,174	14,091	2,396	10,275	10,454	1,701	3,333	11,260	49,664	16,822	28,600	88,285

Table 12. Selected data for Chilkoot Lake sockeye salmon smolt for years 1996–2003, annual autumn hydroacoustic, total adult return, and average annual zooplankton densities for years 1987–2003.

Chilkoot Lake Sockeye Salmon Smolt							
	Sample	Average Weight		Average Length		%	%
Year	Size	Age-1.X	Age-2.X	Age-1.X	Age-2.X	Age 1.0	Age 2.0
1996	25	2.70	2.70	66.80	68.50	91.00	9.00
1997	5	3.00	N/A	68.00	N.A	100.00	N/A
1998	30	2.12	3.50	69.75	73.80	84.00	16.00
1999	39	1.30	1.10	51.08	47.50	100.00	0.00
2000	39	3.18	2.77	70.00	68.78	72.00	28.00
2001	1,161	3.19	5.46	70.10	83.22	66.50	33.50
2002	1,341	1.80	3.17	59.50	71.83	79.10	20.90
2003	1,439	1.80	2.42	61.20	67.12	29.46	71.72
Average	509.88	2.39	3.02	64.55	68.68	77.76	25.59

Chilkoot Lake Fall Hydroacoustic Surveys and Zooplankton Data					
Year	Date	Juveniles	Return	(no./m2)	(mg/m2)
1987	30-Oct	1,344,951	430,180	172,295	207
1988	2-Oct	3,066,118	335,242	131,446	147.5
1989	16-Oct	874,794	346,763	46,872	135.5
1990	25-Oct	607,892	252,188	53,987	145.5
1991	22-Oct	475,404	314,679	9,751	25
1992	N/A	N/A	207,790	N/A	N/A
1993	N/A	N/A	103,251	N/A	N/A
1994	N/A	N/A	62,830	N/A	N/A
1995	6-Nov	285,477	15,155	26,579	84.75
1996	24-Oct	420,569	69,600	44,081	143.75
1997	22-Oct	761,569	73,167	15,063	46
1998	6-Oct	1,302,000	14,552	46,678	91.5
1999	14-Oct	373,000	23,542	14,329	46.25
2000	13-Oct	1,288,887	58,229	62,156	247
2001	17-Oct	696,000	143,785	88,791	275
2002	10-Oct	1,200,856	82,636	46,434	194
2003	10-Oct	1,384,754	106,778	N/A	N/A
Average		976,732	166,132	58,343	138

Source: ADF&G Commercial Fisheries Division

[a] Data collected by NSRAA.

Table 13. Annual total return of Chilkoot Lake sockeye salmon by week, 1976 to 2003.

Mid-Week Date	Stat Week	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
5-Jun	23	124	14	844	3	0	0	0	0	333	8	25	11	0	571	328
12-Jun	24	623	9,572	1,957	8,738	0	25	252	467	3,349	6	101	176	95	4,266	2,060
19-Jun	25	483	35,751	3,796	4,802	1,312	3,394	14,437	2,764	13,273	630	414	198	1,082	26,973	5,062
26-Jun	26	6,470	33,174	1,007	2,188	1,479	4,255	13,272	10,175	14,204	6,975	647	21,421	6,097	15,106	14,736
3-Jul	27	3,192	20,985	6,677	2,832	1,824	2,309	6,972	6,636	12,092	3,372	2,992	23,211	28,807	13,475	9,912
10-Jul	28	3,350	20,830	2,404	12,032	2,241	3,346	7,306	7,186	18,878	6,926	4,685	8,025	20,534	28,206	9,938
17-Jul	29	4,839	18,379	4,984	1,097	5,894	16,810	10,680	7,929	28,068	2,856	4,025	51,328	29,550	45,814	13,233
24-Jul	30	10,097	10,552	9,173	8,064	10,184	24,110	28,921	41,318	61,590	8,196	7,809	54,190	25,275	37,381	46,320
31-Jul	31	30,483	20,599	6,348	29,879	10,225	20,685	56,819	61,978	56,888	37,270	13,506	51,040	54,337	65,123	31,621
7-Aug	32	36,740	21,295	6,128	56,146	27,834	12,128	41,839	45,339	46,017	33,668	29,464	95,943	46,488	48,270	36,726
14-Aug	33	14,251	12,832	3,449	21,877	28,288	17,209	29,943	44,734	26,207	32,265	33,637	47,338	49,678	35,796	32,794
21-Aug	34	7,586	4,822	2,207	10,019	14,261	11,611	21,130	25,253	27,087	55,628	49,703	49,361	25,032	10,998	13,553
28-Aug	35	13,354	883	359	5,801	11,971	5,567	10,965	31,197	13,338	17,265	27,309	19,521	28,384	8,312	18,492
4-Sep	36	857	527	136	1,379	1,205	4,751	2,272	26,034	7,454	12,367	15,178	6,455	13,495	4,337	12,215
11-Sep	37	537	129	123	634	518	915	1,865	7,794	3,258	2,817	7,277	1,466	4,577	1,245	4,568
18-Sep	38-42	763	20	126	319	122	49	892	3,008	173	1,102	1,682	496	1,811	890	630
Yearly Total		133,749	210,364	49,718	165,810	117,358	127,164	247,565	321,812	332,209	221,351	198,454	430,180	335,242	346,763	252,188

Mid-Week Date	Stat Week	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1976-03 Mean
5-Jun	23	1	31	65	309	185	0	873	0	1	0	89	102	15	140
12-Jun	24	471	4,744	249	2,687	295	129	2,317	117	59	174	265	2,005	342	1,626
19-Jun	25	8,300	8,775	2,592	1,117	1,747	1,862	13,611	327	143	413	3,928	3,427	709	5,761
26-Jun	26	7,186	9,426	13,123	8,630	1,507	5,389	8,785	824	859	2,637	9,025	4,118	1,629	8,012
3-Jul	27	5,030	21,317	11,730	8,852	1,332	3,574	5,899	969	2,181	2,800	9,965	4,105	4,090	8,112
10-Jul	28	9,064	10,118	12,017	7,004	2,164	5,987	4,825	909	1,270	4,696	8,109	7,457	5,788	8,403
17-Jul	29	13,531	15,498	9,274	3,760	1,069	3,060	4,762	1,241	1,326	6,157	20,119	9,984	7,976	12,259
24-Jul	30	30,131	16,556	8,745	3,351	1,754	12,819	7,866	1,864	2,184	7,546	21,434	13,098	12,623	18,684
31-Jul	31	53,137	22,984	10,374	7,558	1,944	12,518	8,212	2,067	3,048	8,566	31,855	11,090	28,349	26,732
7-Aug	32	57,302	25,652	9,309	3,951	561	9,726	3,775	2,091	2,633	7,696	24,341	9,722	24,257	27,323
14-Aug	33	44,373	30,146	7,798	4,431	795	5,213	2,786	1,469	1,329	7,272	8,378	4,048	11,720	20,002
21-Aug	34	41,469	15,382	7,946	4,518	633	3,180	4,405	1,293	1,378	3,033	2,523	5,341	2,888	15,080
28-Aug	35	24,411	16,460	4,436	3,640	502	3,363	2,997	818	3,058	3,201	2,204	3,448	4,086	10,191
4-Sep	36	11,310	7,161	3,030	2,182	562	1,226	1,588	280	2,517	3,297	1,267	3,850	1,630	5,306
11-Sep	37	6,968	2,703	2,010	721	76	1,056	468	237	1,225	602	271	839	657	1,984
18-Sep	38-42	1,995	837	553	119	29	499	0	34	331	139	12	4	24	595
Yearly Total		314,679	207,790	103,251	62,830	15,155	69,600	73,167	14,541	23,542	58,229	143,785	82,636	106,783	170,211

Table 14. Summary of releases of DIPAC chum salmon from Boat Harbor and Amalga Harbor, 1988–2003.

Brood Year	Release Year	Boat Harbor Releases	Boat Harbor Release Size (g)	Amalga Harbor Releases	Amalga Harbor Release Size (g)	Total Releases
1987	1988	5,170,000	N/A			5,170,000
1988	1989	8,508,356	0.77			8,508,356
1989	1990	8,300,782	1.31			8,300,782
1990	1991	9,337,000	0.88	34,744,923	0.87	44,081,923
1991	1992	6,709,659	0.62	35,918,054	1.08	42,627,713
1992	1993	9,545,177	0.75	36,147,451	1.23	45,692,628
1993	1994	6,464,450	0.86	34,817,531	1.38	41,281,981
1994	1995	8,931,491	1.06	34,472,077	1.49	43,403,568
1995	1996	8,536,780	0.7	34,979,646	1.22	43,516,426
1996	1997	7,759,020	1.4	34,535,728	1.33	42,294,748
1997	1998	7,217,000	1.45	49,155,073	1.52	56,372,073
1998	1999	9,262,694	1.32	7,655,324	3.44 (L/La)	60,045,708
				43,127,690	1.53 (Regb)	
1999	2000	9,010,000	1.61	8,722,507	4.04 (L/L)	62,228,963
				44,496,456	1.55 (Reg)	
2000	2001	14,883,720	1.17	7,604,465	4.07 (L/L)	60,911,856
				38,423,671	1.41 (Reg)	
2001	2002	11,263,498	0.69	17,452,832	0.72	28,716,331
2002	2003	5,400,000	2.62 (L/L)	17,400,000	4.02 (L/L)	47,100,000
		6,800,000	1.78 (Reg)	17,500,000	2.39 (Reg)	
2003	2004[c]	6,000,000	(Reg)	40,000,000	(Reg)	63,000,000
		9,000,000	(L/L)	8,000,000	(L/L)	

a Late large release -Fry are held and fed for longer periods prior to release.
b Regular release –Normal fry release timing
c Planned
releases.
Source: Douglas Island Pink and Chum Inc.

Table 15. Summary of returns from DIPAC chum salmon enhancement projects in lower Lynn Canal, 1991–2003 with projections for 2004.

				Boat Harbor			Amalga Harbor		
Year	Total Catch	% Estimated Hatchery Contribution.	Estimated Hatchery Contribution	Commercial Catch[b]	Cost Recovery	Total Return	Commercial Catch	Cost Recovery	Total Return
1991	111,465	50.10%	55,818	55,818	0	55,818	0		
1992	162,231	52.90%	85,811	85,811	0	85,811	0		
1993	246,174	78.20%	192,446	192,446	0	192,446	0		
1994	568,850	81.40%	463,106	135,640	0	135,640	327,466	124,994	452,460
1995	499,167	91.20%	455,336	176,495	0	176,495	278,841	267,533	546,374
1996	340,021	78.20%	265,957	62,477	10,872	73,349	203,480	968,448	1,171,928
1997	431,699	87.80%	378,851	163,350	2,920	166,270	215,502	692,593	908,095
1998	136,515	83.40%	113,885	59,001	0	59,001	54,884	508,686	563,570
1999	290,325	85.50%	248,167	96,438	0	96,438	151,729	723,298	875,028
2000	680,536	88.60%	602,838	226,317	0	226,317	376,521	1,342,141	1,718,662
2001	358,987	85.10%	305,590	84,005	0	84,005	221,585	540,124	761,709
2002	630,486	94.50%	595,690	143,912	0	143,912	451,778	1,151,413	1,603,191
2003	348,820	96.80%	329,961	91,507	0	91,507	238,454	1,826,922	2,065,376
2004[a]	N/A	N/A	N/A	191,000	0	191,000	342,000	1,098,000	1,440,000
91-03 Average	371,371	81.05%	314,881	121,017	1,061	122,078	193,865	814,615	1,066,639

[a]2004 projected return

[b] Includes contribution to the commercial drift gillnet and troll fisheries.

Source: Douglas Island Pink and Chum Inc.

Table 16. Estimated annual age compositions and brood year returns of large (≥ age 1.3) king salmon immigrating into the Chilkat River, 1991–2003.[a]

	AGE CLASS							
	1.3		1.4		1.5			
Year	Abundance	SE	Abundance	SE	Abundance	SE	Total	SE
1991	2,714	489	2,995	541	187	23	5,897	1,005
1992	1,689	309	3,595	662	-	-	5,284	949
1993	2,217	432	2,180	425	75	10	4,472	851
1994	2,405	382	4,276	681	115	15	6,795	1,057
1995	450	93	3,077	664	263	52	3,790	805
1996	4,077	632	788	120	54	6	4,920	751
1997	1,943	354	6,157	930	-	-	8,100	1,193
1998	1,016	169	2,440	381	219	48	3,675	565
1999	534	109	1,656	302	80	27	2,271	408
2000	1,350	227	653	118	32	14	2,035	334
2001	2,529	376	1,988	617	0	0	4,517	723
2002	2,353	312	1,667	294	30	19	4,050	429
2003	1,941	285	3,647	474	39	28	5,628	553
Percent	42.4%		56.2%		1.5%			
Average	2,001		2,654		70		4,726	

[a] Source: Ericksen, unpublished data.

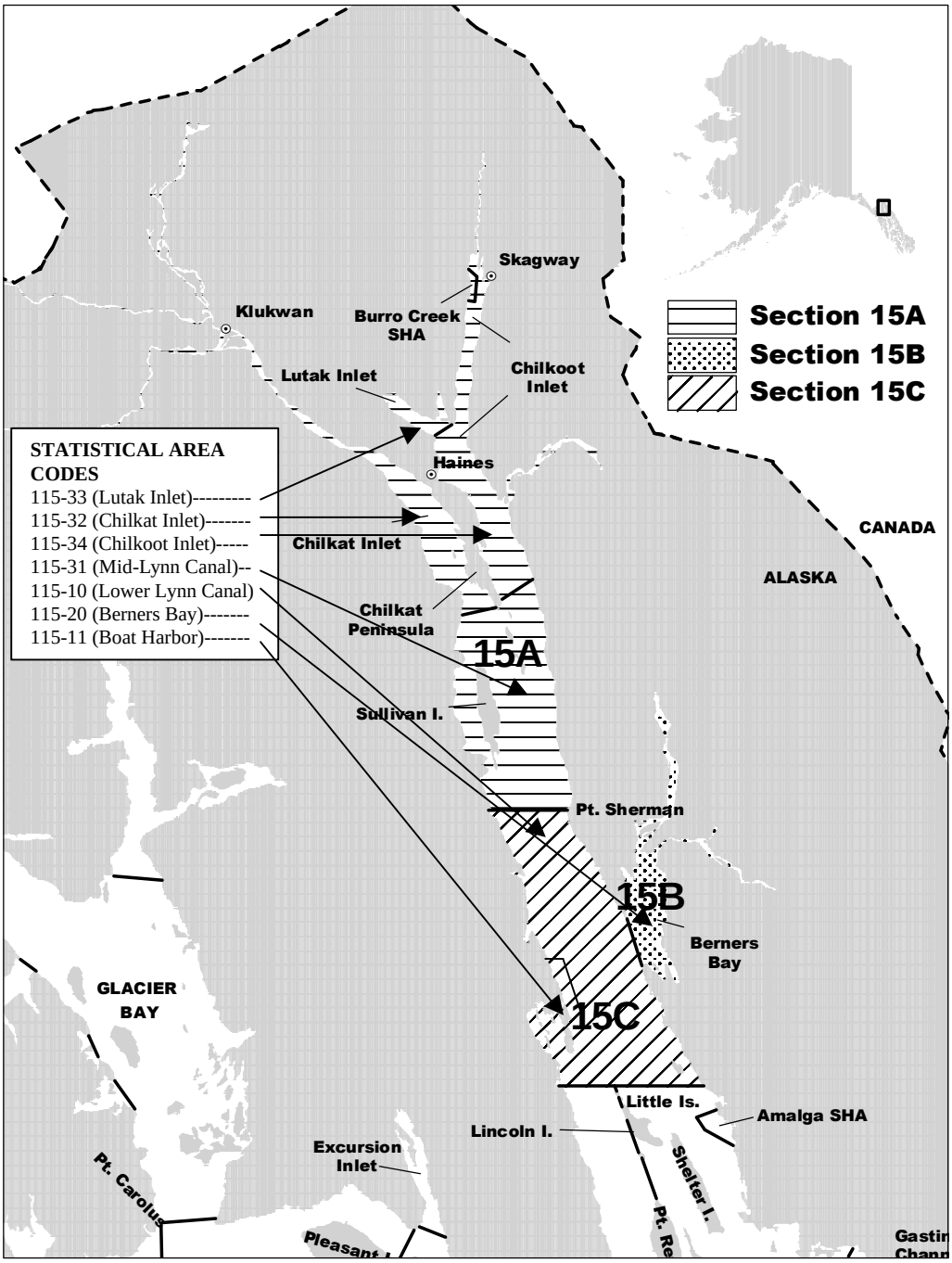


Figure 1. Lynn Canal district, section and statistical area boundaries.

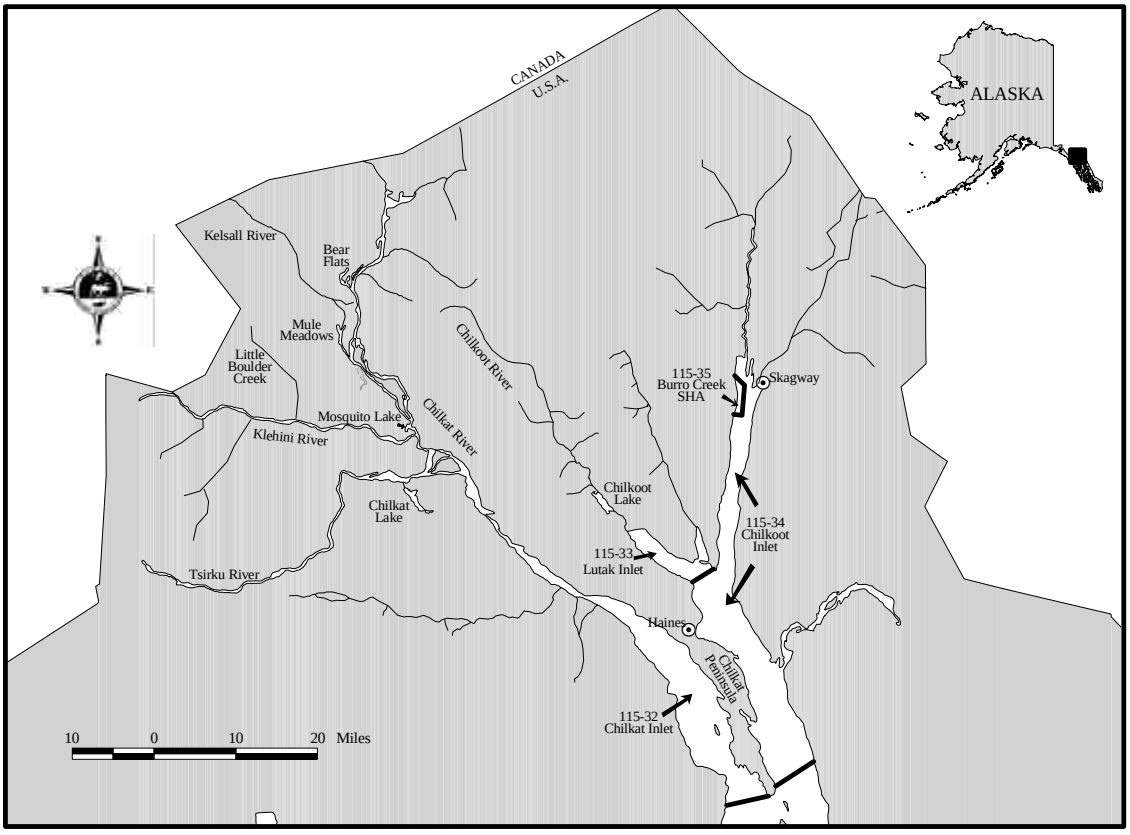


Figure 2. Upper Lynn Canal showing Chilkat and Chilkoot lakes.

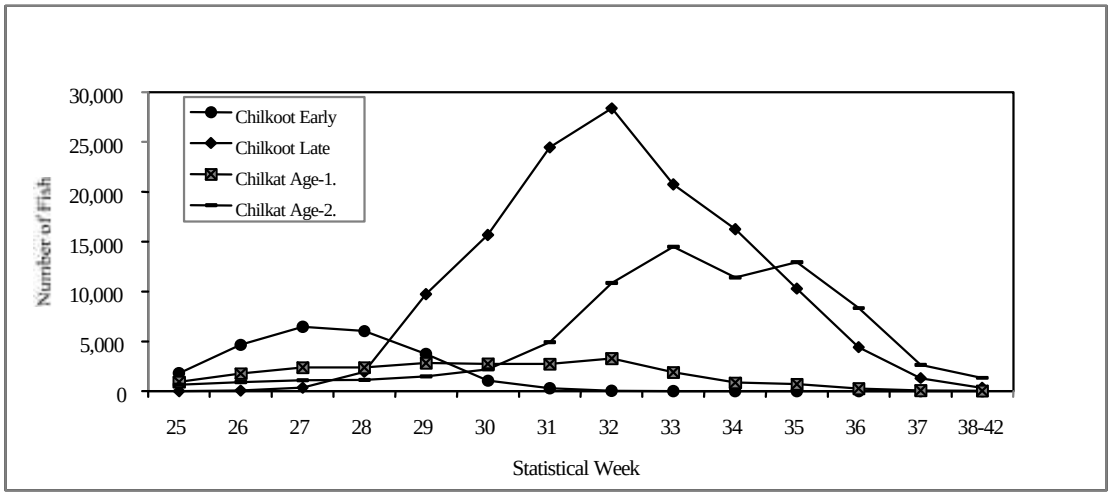


Figure 3. Lynn Canal sockeye salmon weekly abundance by stock. Data for period 1976 to 1992.

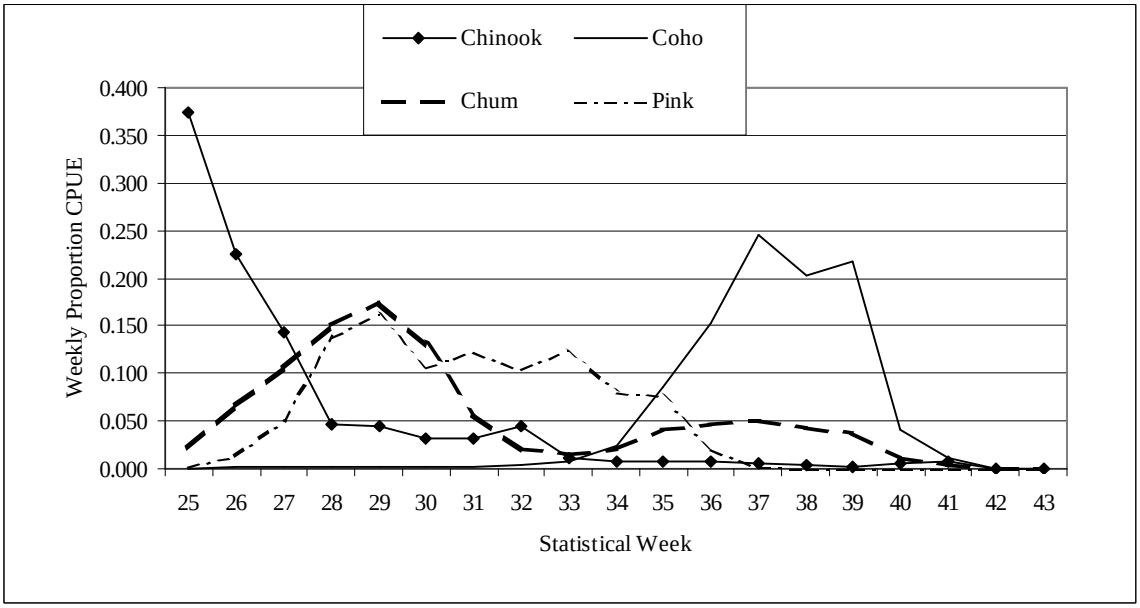


Figure 4. Run timing (weekly proportion CPUE) of chinook, coho, summer and fall chum, and pink salmon in the Lynn Canal drift gillnet fishery. Data for period 1992 to 2003.

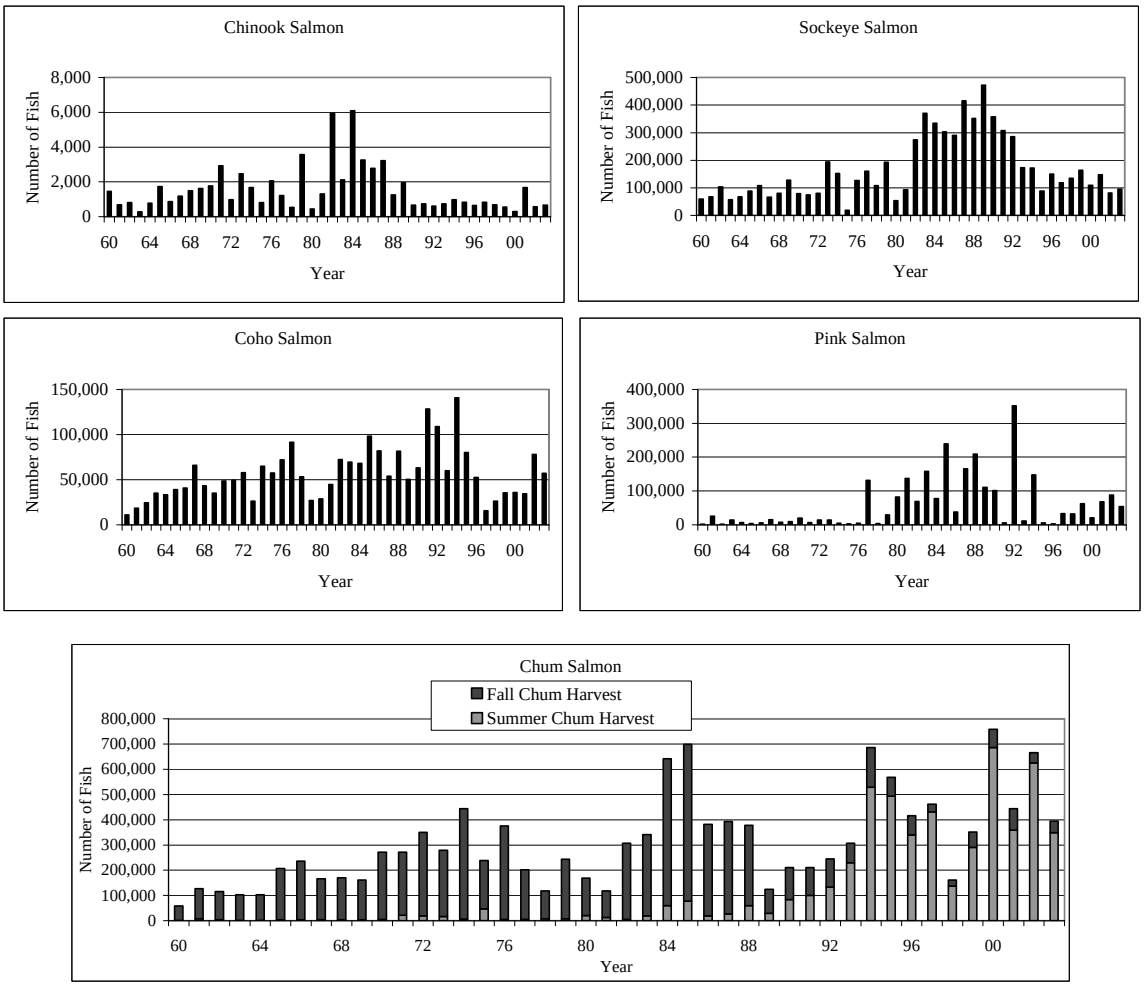


Figure 5. Historical catches of chinook, sockeye, coho, pink, and chum salmon in the District 15 (Lynn Canal) drift gillnet fishery, 1960 to 2003.

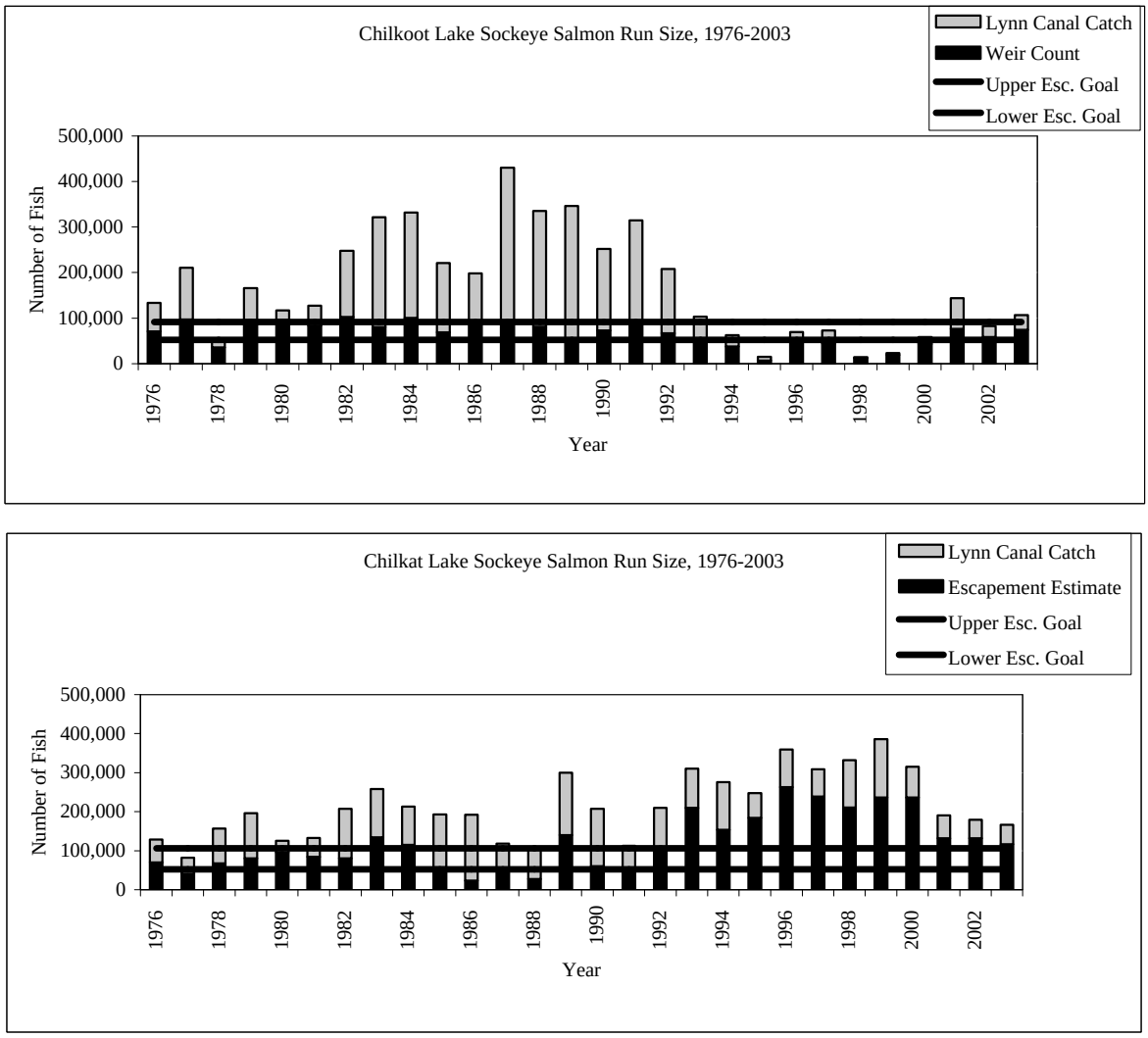


Figure 6. Historical escapement and harvest of Chilkoot and Chilkat lake sockeye salmon, 1976 to 2003. Note: Escapements estimates in 1994–2003 in Chilkat Lake were based on mark-recapture estimates. Marine harvest of sockeye salmon for Chilkoot Lake in 1998 and 1999 was estimated to be 2,200 and 4,258 fish, respectively.

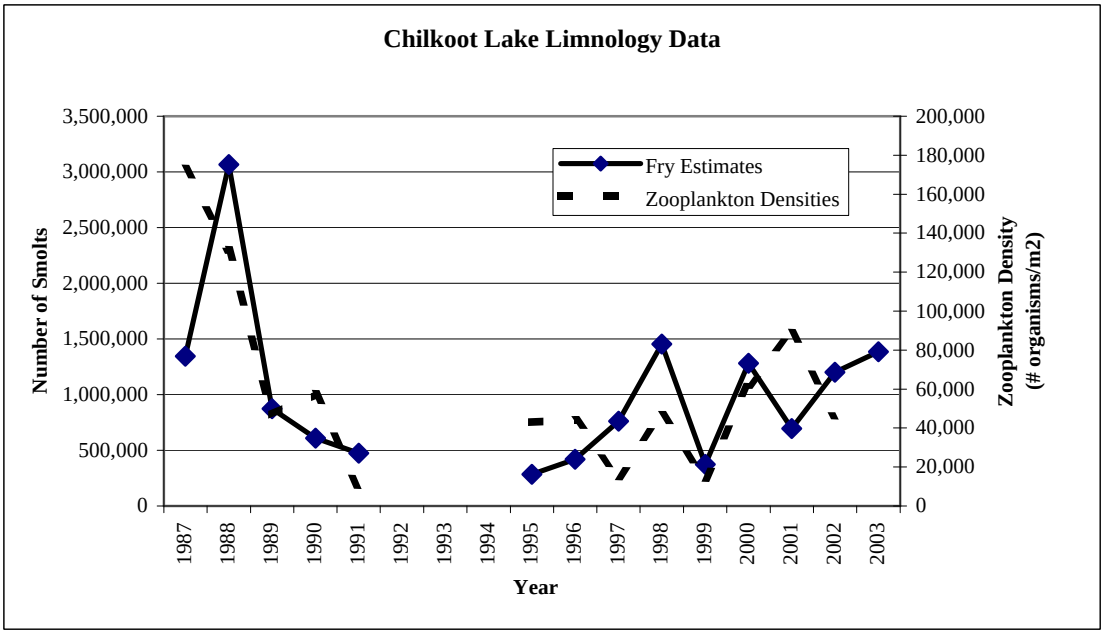


Figure 7. Yearly comparisons of Chilkoot Lake autumn hydroacoustic counts of juvenile sockeye salmon and average zooplankton densities, 1987–1991 and 1995–2003. Source: D. Barto, ADF&G Commercial Fisheries Division, unpublished data. Note: 2003 zooplankton data not available at time of this report.

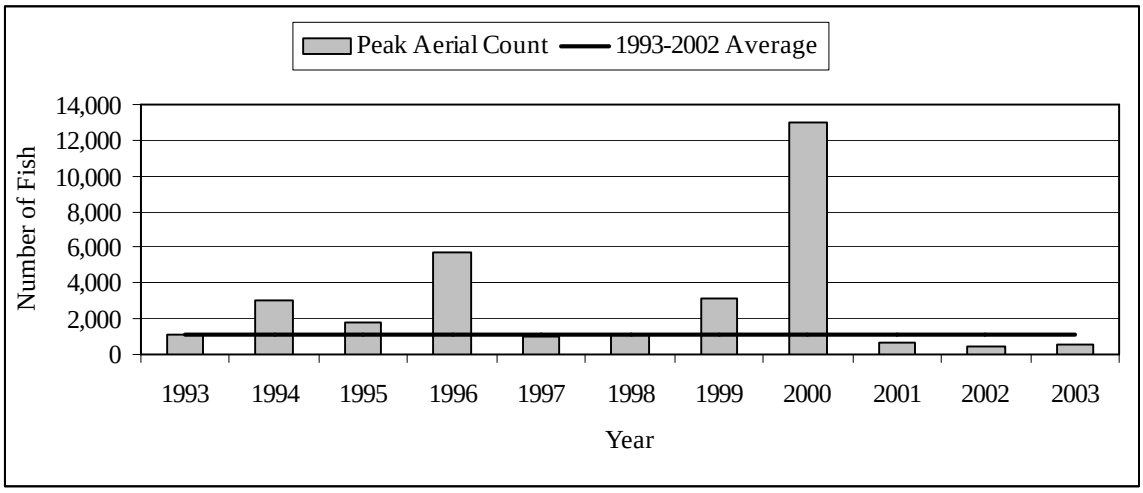


Figure 8. Peak aerial survey results for Sawmill Creek chum salmon, 1993-2003.

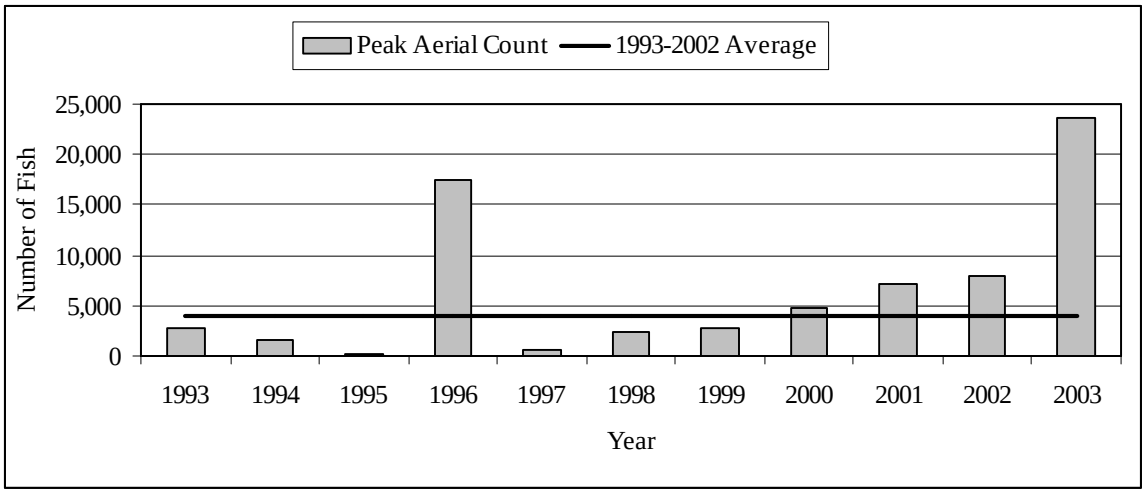


Figure 9. Peak aerial survey results for Western Lynn Canal chum salmon streams combined, 1993–2003.

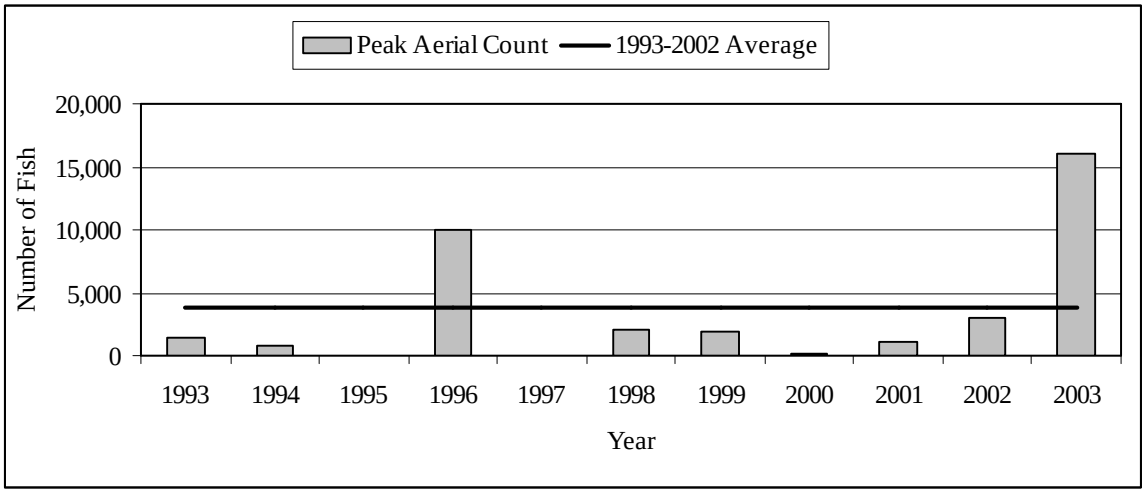


Figure 10. Peak aerial survey results for Endicott River chum salmon, 1993–1996, 1998-2003.

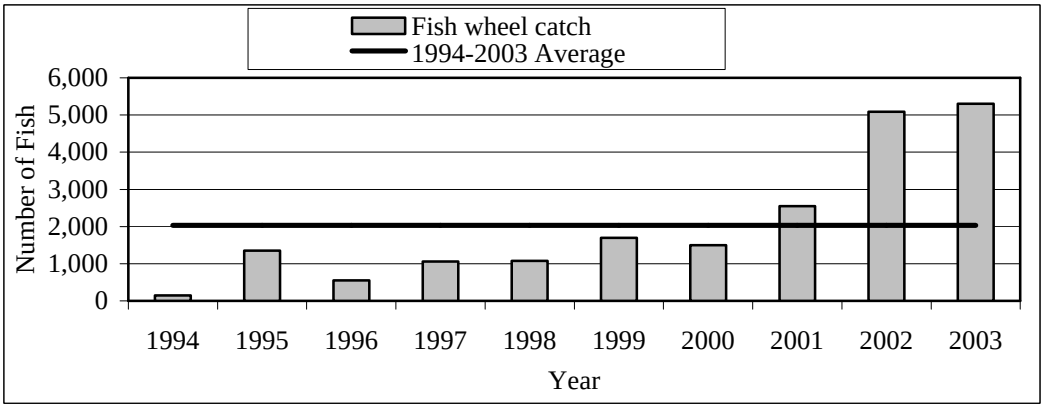


Figure 11. Total Chilkat River coho salmon fish wheel catch by year, 1994–2003.

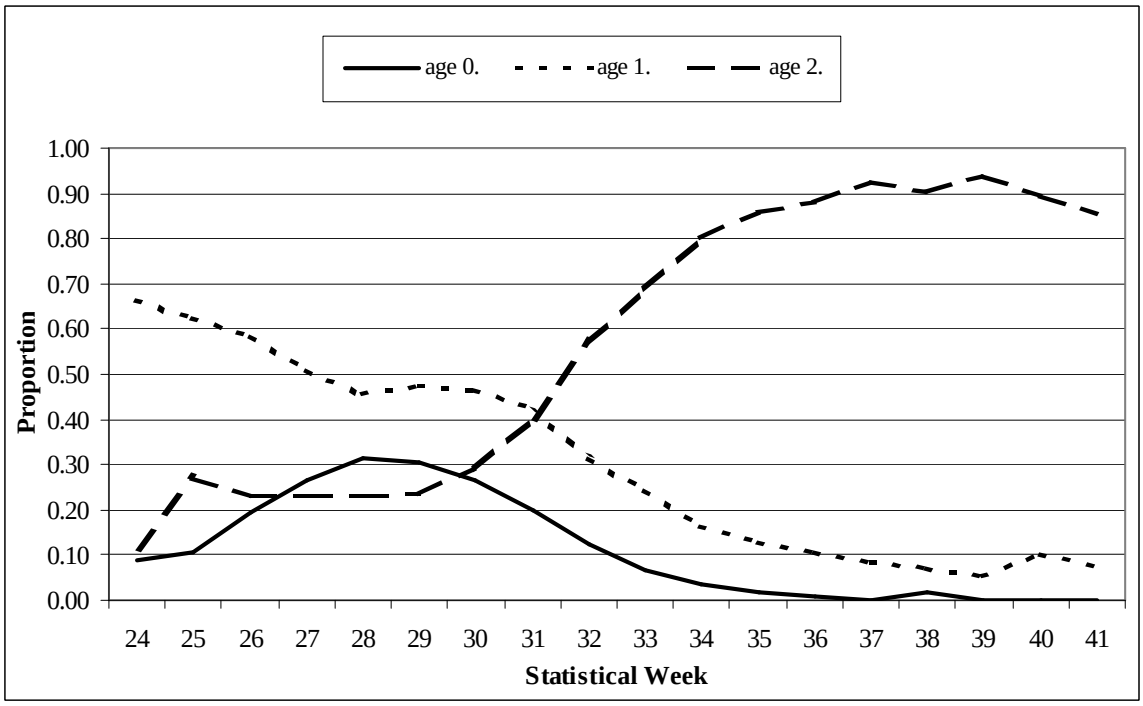


Figure 12. Average 1994–2003 run timing for Chilkat River sockeye salmon stocks at the Chilkat River fish wheels by fresh water age class.

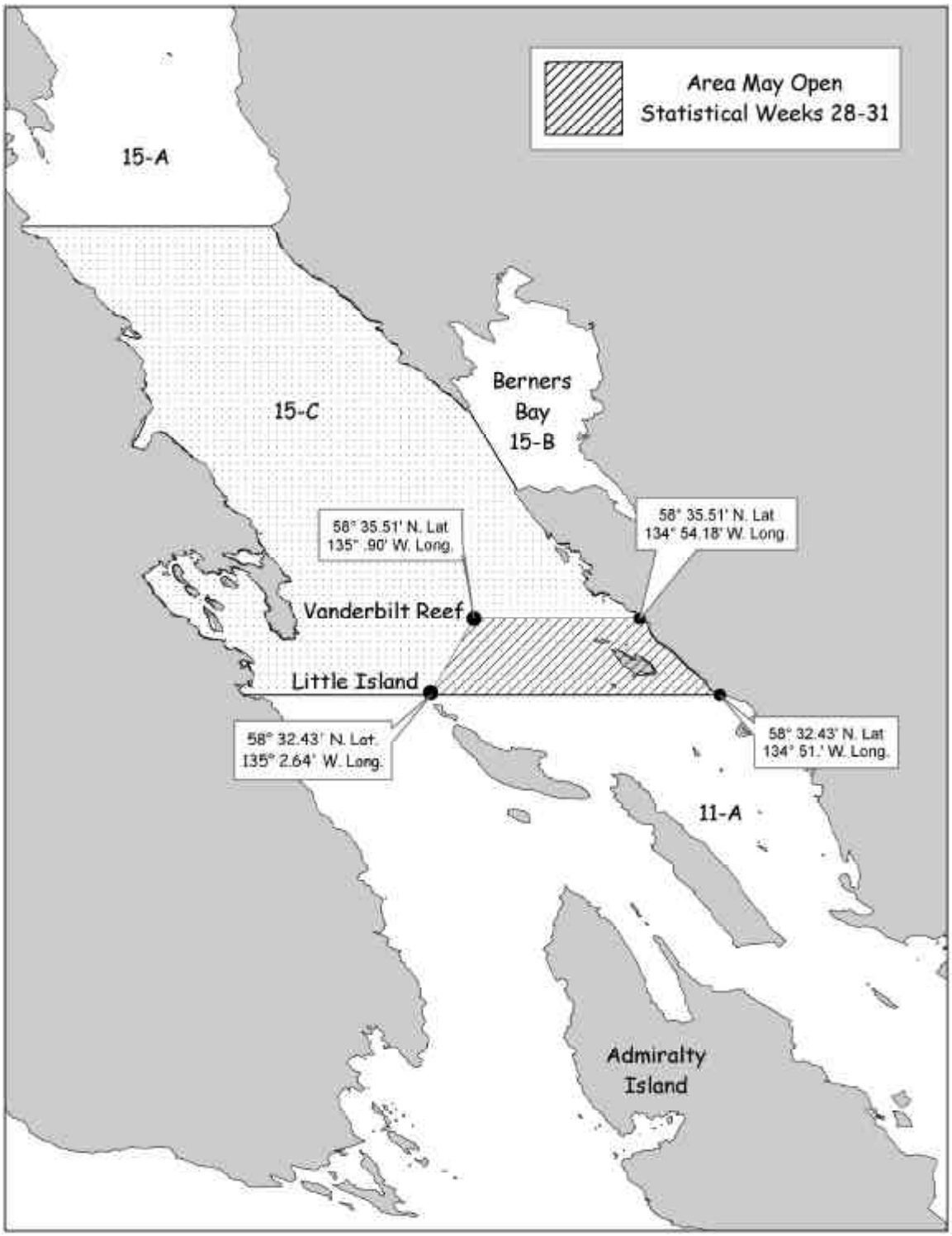


Figure 13. Map showing possible area in Lower Lynn Canal that may be opened for additional time during peak weeks of hatchery chum return (Statistical Weeks 28–31).

APPENDICES

Appendix 1. Lynn Canal and Chilkat River King Salmon Fishery Management Plan.

5 AAC 33.384. Lynn Canal and Chilkat River King Salmon Fishery Management Plan.

(a) The purpose of this management plan is to ensure biological spawning escapement requirements of king salmon to the Chilkat River. It is the intent of the Board of Fisheries (board) that the Chilkat River king salmon be harvested in the fisheries that have historically harvested them. The board, through this management plan, recognizes that the commercial drift gillnet fishery in Chilkat Inlet, and the subsistence fisheries in Chilkat Inlet and the Chilkat River are directed primarily toward sockeye salmon but catch king salmon incidentally. A secondary goal of this management plan is to provide a reasonable opportunity to harvest sockeye salmon in the Chilkat Inlet and Chilkat River subsistence fisheries while minimizing the incidental harvest of king salmon. This management plan provides the department guidelines to preclude allocation conflicts between the various user groups of this resource. The department shall manage the Chilkat River king salmon stocks in a conservative manner consistent with sustained yield principles.

(b) The department shall close the subsistence net fisheries in Chilkat Inlet north of a line extending from an ADF&G regulatory marker approximately one mile south of Anchorage Point to an ADF&G regulatory marker directly north of the Lenikof Cove boat ramp, through July 15. In the Chilkat River, excluding that portion of the river from Haines highway mile 19, continuing upstream to Well's Bridge, from approximately the third week of June through the fourth week of July.

(c) The department shall manage the commercial and sport fisheries in Lynn Canal to achieve an inriver run goal of 1,850 to 3,600 king salmon in the Chilkat River upstream of the department fish wheels located approximately adjacent to mile 9 of the Haines highway. The inriver run goal provides for the following:

(1) a biological escapement goal (BEG) of 1,750 to 3,500 large king salmon (three ocean age and older) to the Chilkat River; and

(2) an incidental harvest of king salmon in the Chilkat River subsistence sockeye fishery.

(d) The department will evaluate the inriver run of king salmon based on the following:

(1) primarily a pre-season projected run of Chilkat River king salmon to Lynn Canal;

(2) inseason fisheries performance; and

(3) inriver stock assessment programs.

(e) The department shall manage the commercial and drift gillnet and troll fisheries in Lynn Canal, and the sport king salmon fishery in Chilkat Inlet, as follows:

(1) the department shall close the commercial troll fishery in Chilkat Inlet north of a ADF&G regulatory marker immediately north of Seduction Point through July 14;

(2) if the projected inriver run of king salmon to the Chilkat River is 1,850 fish (three ocean age and older) or less, the department shall:

(A) close the commercial drift gillnet fishery in Chilkat Inlet north of a ADF&G regulatory marker immediately north of Seduction Point through the first two weeks of the fishery; during the third and fourth week of the fishery, the Chilkat Inlet north of Glacier Point shall be closed; during the fifth week, the commercial drift gillnet fishery in Chilkat Inlet north of Cannery Point shall be closed; and

(B) close sport fishing for king salmon in Chilkat Inlet north of a ADF&G regulatory marker immediately north of Seduction Point through June 30; close king salmon fishing in Chilkat Inlet

north of a line extending from an ADF&G regulatory marker one mile south of Anchorage Point to an ADF&G regulatory marker directly north of the Letnikof Cove boat ramp, through July 15; in the remainder of Chilkat Inlet north of Seduction Point, from July 1 – July 15, sport fisherman are allowed a bag and possession limit of one king salmon, 28 inches or greater in length;

(3) if the projected inriver run of king salmon to the Chilkat River is 1,850 to 3,600 fish the department shall;

(A) close the commercial drift gillnet fishery in Chilkat Inlet north of a ADF&G regulatory marker immediately north of Seduction Point through the first two weeks of the fishery; during the third week of the fishery, close the area in Chilkat Inlet north of Glacier Point; during the fourth week, close the area in Chilkat Inlet north of Cannery Point; and

(B) close sport fishing for king salmon in Chilkat Inlet north of a line extending from an ADF&G regulatory marker approximately one mile south of Anchorage Point to an ADF&G regulatory marker directly north of the Lenikof Cove boat ramp from April 15 through July 15;

(4) if the projected inriver run of king salmon to the Chilkat River is greater than 3,600 fish the department shall;

(A) close the commercial drift gillnet fishery in Chilkat Inlet north of a ADF&G regulatory marker immediately north of Seduction Point through the first week of the fishery; during the second week of the fishery, close the area in Chilkat Inlet north of Glacier Point; during the third week, close the area in Chilkat Inlet north of Cannery Point; and

(B) close sport fishing for king salmon in Chilkat Inlet north of a line extending from an ADF&G regulatory marker approximately one mile south of Anchorage Point to an ADF&G regulatory marker directly north of the Lenikof Cove boat ramp from April 15 through July 15; the commissioner may, through emergency order, increase the bag and possession limits of king salmon north of Seduction Point.

Appendix 2. Calendar dates for statistical weeks in 2004.

2004 Calendar Weeks

Week	Beginning Date	Ending Date	Week	Beginning Date	Ending Date
1	1-Jan	3-Jan	28	4-Jul	10-Jul
2	4-Jan	10-Jan	29	11-Jul	17-Jul
3	11-Jan	17-Jan	30	18-Jul	24-Jul
4	18-Jan	24-Jan	31	25-Jul	31-Jul
5	25-Jan	31-Jan	32	1-Aug	7-Aug
6	1-Feb	7-Feb	33	8-Aug	14-Aug
7	8-Feb	14-Feb	34	15-Aug	21-Aug
8	15-Feb	21-Feb	35	22-Aug	28-Aug
9	22-Feb	28-Feb	36	29-Aug	4-Sep
10	29-Feb	6-Mar	37	5-Sep	11-Sep
11	7-Mar	13-Mar	38	12-Sep	18-Sep
12	14-Mar	20-Mar	39	19-Sep	25-Sep
13	21-Mar	27-Mar	40	26-Sep	2-Oct
14	28-Mar	3-Apr	41	3-Oct	9-Oct
15	4-Apr	10-Apr	42	10-Oct	16-Oct
16	11-Apr	17-Apr	43	17-Oct	23-Oct
17	18-Apr	24-Apr	44	24-Oct	30-Oct
18	25-Apr	1-May	45	31-Oct	6-Nov
19	2-May	8-May	46	7-Nov	13-Nov
20	9-May	15-May	47	14-Nov	20-Nov
21	16-May	22-May	48	21-Nov	27-Nov
22	23-May	29-May	49	28-Nov	4-Dec
23	30-May	5-Jun	50	5-Dec	11-Dec
24	6-Jun	12-Jun	51	12-Dec	18-Dec
25	13-Jun	19-Jun	52	19-Dec	25-Dec
26	20-Jun	26-Jun	53	26-Dec	31-Dec
27	27-Jun	3-Jul			

Appendix 3a. Historical age composition of sockeye salmon escapements to Chilkat and Chilkoot lakes, 1982 to 2003.

Chilkat Lake

	Year																						
AGE	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	AVG
0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
1.1	0.4	0.7	0.1	0.2	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.2	0.1
1.2	2.3	3.2	1.5	5.1	1.7	1.8	0.8	0.7	1.8	2.1	1.1	6.4	2.6	5.5	10.4	38.8	4.9	1.7	2.4	2.9	2.5	5.1	3.2
1.3	12.9	38.0	22.8	29.9	1.6	24.5	47.3	42.8	14.0	36.1	40.8	15.0	58.6	27.1	67.5	19.9	69.4	31.6	5.1	54.7	26.5	21.0	30.9
1.4	0	0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.5	0.1	0.2	0.0	0.1	0.9	0.0	0.0	0.0	0.1	0.3	0.1	0.4	0.2	0.2
2.1	2.6	2.7	1.5	0.9	0.5	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.3	0.0	0.0	0.0	0.1	0.4	0.6
2.2	45.3	27.9	53.6	23.7	20.6	34.2	7.9	28.9	24.8	21.8	16.9	36.2	11.4	17.7	8.8	14.0	19.0	14.3	7.8	11.8	20.1	14.8	23.4
2.3	34.8	27.1	20.2	34.8	73.1	35.0	43.4	27.3	58.0	39.5	40.7	38.7	26.6	48.6	13.3	25.5	6.0	52.0	81.4	25.9	50.3	57.5	40.5
2.4	0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.0	0.3	0.1
2.5	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.2	1.3	0.1	0.2	0.6	1.9	0.5	0.1	0.0	0.8	0.0	0.0	3.6	0.1	0.1	0.0	0.0	0.0	0.0	2.8	0.1	0.0	0.3	0.6
3.3	0.1	0.0	0.0	0.1	0.5	0.2	0.1	0.1	0.0	0.2	0.1	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.3
4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0

Chilkoot Lake

	Year																						
AGE	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	AVG
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
1.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	19.0	12.0	4.5	12.2	13.2	8.4	4.4	4.5	2.0	12.5	1.8	2.6	1.8	44.1	6.2	2.2	4.7	28.8	13.2	4.8	6.4	41.3	10.4
1.3	78.4	60.4	86.7	66.4	67.0	69.2	77.9	54.9	45.4	55.9	62.6	35.6	66.9	30.7	84.2	90.2	60.5	46.5	58.6	89.8	89.6	45.0	65.7
1.4	0.9	0.2	0.8	2.4	0.6	0.2	1.4	1.2	1.0	0.4	0.7	0.3	0.6	0.8	0.2	0.1	1.4	2.0	0.1	0.0	0.5	0.4	0.6
2.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.2	0.5	1.4	0.4	2.6	2.2	2.2	2.7	5.0	1.5	4.9	5.8	1.8	1.6	3.8	0.8	0.4	2.1	8.1	1.9	0.2	1.1	4.2	2.5
2.3	0.9	25.8	7.6	15.9	16.8	19.8	13.2	33.5	49.1	25.9	28.3	59.0	28.8	20.0	8.5	7.1	31.0	16.3	26.1	4.9	2.5	9.1	20.4
2.4	0.0	0.0	0.0	0.3	0.1	0.1	0.3	0.4	1.0	0.3	0.5	0.4	0.2	0.7	0.0	0.0	0.1	2.0	0.0	0.0	0.0	0.0	0.2
3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1

Appendix 3b. Historical age composition of sockeye salmon escapements to Chilkat River mainstem areas, 1984 to 2003.

Chilkat Mainstem	Year																				
AGE	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	AVG
0.1	0	0	0	0	1.1	0	0	0.7	0.5	0	2.4	0	0	0.2	1.2	7.2	0	0	1.0	0	0.7
0.2	6.7	14.7	6.1	9.8	36.6	8	36.4	21.5	18.8	1.5	31.5	29.7	11.6	18.3	28	65.8	28.4	4.5	20.6	47.9	22.9
0.3	28.1	42.6	49.1	9.8	32.3	56.8	31.8	54.2	26.1	85.1	26.5	36.1	62.4	62.9	42	20.3	62.6	65.1	33.2	21.4	40.4
0.4	0	0	0.9	0	0	0	0	0	0.5	0	0	0.2	0	0	0	0	0	0	.0	0	0.1
1.1	0.7	0	0	0	1.1	0	0	1	2.3	0	2.4	0	0.2	0	1.9	2.1	0.4	0	.5	2.6	1.1
1.2	1.5	0	14.9	3.9	23.7	2.3	4.5	9.1	3	0	20.4	12.4	5.6	3.2	7.5	4.2	4.5	1.5	3.0	13.3	9.2
1.3	63	39.7	26.3	74.5	5.4	31.8	27.3	13.5	48.9	13.4	16	21.5	20.2	15.3	19.6	0	4.1	29.0	41.7	14.4	25.3
1.4	0	0.7	0.9	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0
2.2	0	1.5	0	0	0	0	0	0	0	0	0.5	0	0	0	0	0.4	0	0	0	0	0.1
2.3	0	0.7	0.9	2	0	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.1
2.4	0	0	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 3c. Historical age composition of sockeye salmon escapements to Berners Bay rivers, 1984 to 2003.

Berners Bay rivers	Year																			
Age	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	AVG
0.1	0	3.6	0	0	0	0	0	0.7	0	0	0	0	0	0.5	0	0.3	0	0	0.4	0	0.2
0.2	0	10.7	2.6	0	0	1.8	2.2	3.2	2.7	1.3	1.3	2.7	0.2	0.9	0.3	0.3	4.5	1.2	1.3	2.7	1.7
0.3	6.6	4.8	35.4	32.3	7.3	2.1	14.7	27.6	18.4	30.8	3.3	13.5	8.9	38.5	14.6	6.7	19.3	17.7	5.1	16.8	16.0
0.4	0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0
1.1	0	4.8	2.1	0	0	1.1	3.7	1.5	0.9	0.9	3.8	0.3	0.4	0.9	0.3	1	0.3	3.2	0.9	0.9	1.3
1.2	1.6	11.9	12.7	4.5	10.1	6.7	40.4	15.6	4	14.4	13.2	35.7	2.8	11	4.1	8.1	12.1	4.7	24.3	8.8	11.5
1.3	91.8	61.9	46	62.4	82.6	85.3	33.8	50.1	74.1	51.7	77.8	45.3	87.6	48.2	80.6	82.2	63.4	72.9	68.1	64.6	68.5
1.4	0	0	0	0	0	0	0	0.2	0	0	0.2	1.2	0	0	0	0	0	0	0	0	0.1
2.1	0	0	0	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2	0	1.2	0	0	0	0.7	0.7	0.2	0	0.2	0.2	0.6	0	0	0	0	0	0	0	0	0.2
2.3	0	0	1.1	8	0	2.1	4.4	0.7	0	0.7	0.2	0.6	0	0	0	1.3	0.3	0	0	6.2	0.6

Appendix 4. Data collected from the inseason information system to determine fishery performance by species.

Sockeye Salmon

a. Inseason abundance forecasts: Forecasts will be obtained by comparing current-year total return information (catch plus escapement), and expanding those results by historical run timing percentages for each stock.

b. Escapement tracking: Daily escapements are tracked at the Chilkoot River weir. The weir provides timely data for inseason assessment as fish pass that weir within one week of fishery. Chilkat Lake/River sockeye salmon escapements will be monitored using two fish wheels in the lower Chilkat River. Fish wheel catch alone is not a definitive index of abundance but current year data will be compared to historic data. The Chilkat weir will be operated to provide a site for mark-recovery, biological sampling, and a timely preliminary estimate of escapement into Chilkat Lake.

c. Inseason catch figures: Inseason catch figures are from the ADF&G fish ticket system. In the first 24 hours of an opening interview data from the fleet is used to estimate catches. After that time a subsample of deliveries is expanded to total effort to estimate weekly catch.

d. Stock contributions: Inseason catch stock contributions are estimated each week from random scale samples. Estimates are made for three groups: Chilkoot Lake, Chilkat Lake, and a combination of Berners Bay and Chilkat mainstem. Postseason stock contributions are made to add to the historic database from which models are derived. Escapements are sampled for scales to determine age structure of spawners in order to combine with catch data for spawner-recruit and preseason databases.

e. Fishery monitoring: Site-specific fishery performance data and scale sampling are used to monitor migration paths and identify areas of overlap between stocks. Information is also provided on fish buildups in specific areas.

Fall and Summer Chum and Pink Salmon

a. Inseason catch figures: Inseason catch data are obtained from the ADF&G fish ticket system. In the first 24 hours of an opening interview data from the fleet are used to estimate total harvests. After that time, a subsample of deliveries is expanded to total effort to estimate catches.

b. Aerial surveys and fish wheel catch: Escapement rates and distribution are monitored by aerial survey inseason when feasible and throughout the peak spawning period. Current

fish wheel catches of salmon are compared to historical levels to estimate escapement rates.

c. Fishery monitoring: Collect catch data and other fishery performance information such as effort level, fishing conditions, influence of northerly winds on rate of entry into Chilkat River, and observations of fish buildups.

d. Fish wheel index: Lower Chilkat River fish wheel catch rates will be compared to the historical database to be used as an indicator of abundance.

Coho Salmon

a. Inseason catch figures: Inseason catch figures from the ADF&G fish ticket system.

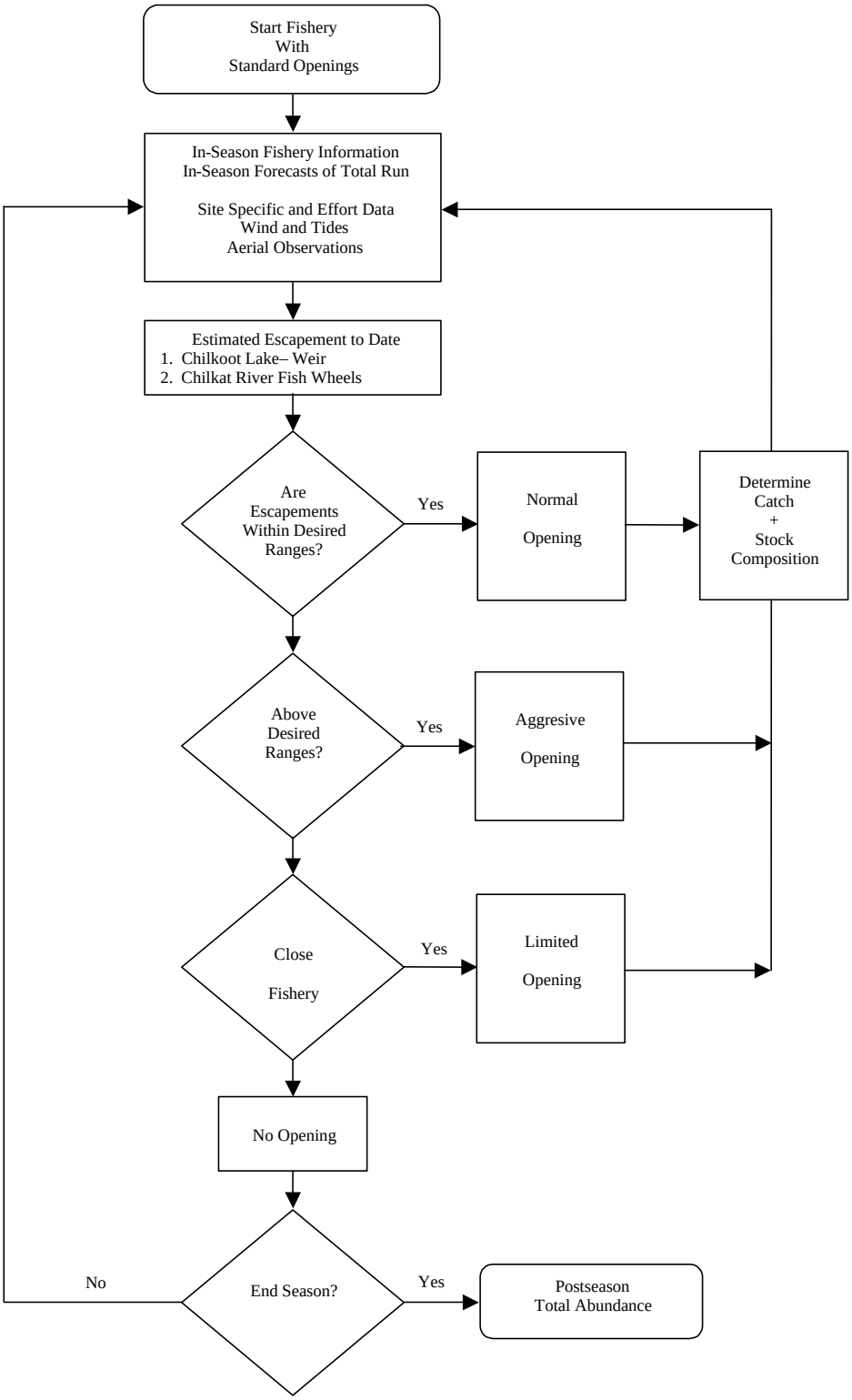
b. Aerial and foot surveys: Peak spawner counts are not obtained until postseason. However, in some index systems, Berners River and Chilkoot Lake, early season surveys provide an indication of escapement rates when water levels and conditions allow.

c. Fishery monitoring: Availability of coho salmon is judged by comparing current CPUE and catch to the historical average and by the relative abundance of coho salmon in specific areas.

d. Fish wheel index: Lower Chilkat River fish wheel catch rates will be compared to the historical database to be used as an indicator of abundance.

e. Berners River coded-wire tag monitoring and inseason projections: Coded-wire tag recoveries for Berners River and Chilkat River coho salmon are monitored inseason by commercial fisheries staff. Data collected from this program will be used to project the total return of Berners and Chilkat River coho salmon. This system is assumed to be an index for other Lynn Canal coho salmon stocks.

The following schematic diagram generally summarizes how the information collected from the inseason information system is used to determine fishery openings.



Appendix 5. Inclusive dates of operation for Chilkoot and Chilkat weirs and Chilkat River fish wheels, 1967 to 2003.

	Chilkoot Lake	Chilkat Lake	Chilkat River
Year	Dates of Weir Operation	Dates of Weir Operation	Dates of Fish Wheel Operation
1967	None	6/13-9/02	
1968	None	6/8-9/12	
1969	None	6/4-9/16	
1970	None	5/29-9/17	
1971	None	5/31-10/28	
1972	None	6/3-10/12	
1973	None	6/11-10/15	
1974	None	5/30-9/28	
1975	None	6/4-11/06	
1976	5/30-11/2	6/3-10/21	
1977	5/28-9/11	6/3-9/27	8/21-10/21
1978	6/6-11/7	6/05-11/05	8/14-11/9
1979	6/9-11/5	6/9-11/11	
1980	6/15-10/5	6/15-10/08	
1981	6/10-10/12	6/11-10/22	
1982	6/3-9/16	6/24-10/06	10/5-26
1983	6/4-11/13	6/22-11/12	8/9-10/3
1984	6/3-9/14	6/9-10/07	
1985	6/5-10/21	6/23-10/22	
1986	6/6-10/29	6/16-11/14	
1987	6/4-11/2	6/19-11/20	
1988	6/9-11/12	6/18-11/14	
1989	6/4-10/30	6/5-10/28	
1990	6/3-10/30	6/6-11/13	8/14-10/25
1991	6/7-10/8	7/10-10/24	5/8-7/20
1992	6/2-9/26	6/8-10/15	
1993	6/3-9/30	6/13-10/14	
1994	6/4-9/24	5/20-10/5	6/18-9/11
1995	6/5-9/11	6/8-10/9	6/16-9/16
1996	6/6-9/11	Weir not used	6/22-9/16
1997	6/4-9/9	Weir not used	6/11-10/09
1998	6/4-9/13	6/9-10/13	6/9-10/13
1999	6/4-9/13	6/30-10/28	6/7-10/08
2000	6/3-9/12	6/16-10/18	6/9-10/07
2001	6/7-9/12	6/19-10/13	6/6-10/07
2002	6/8-9/11	6/23-10/18	6/7-10/19
2003	6/6-9/9	6/27-10/10	6/6-10/21

The Alaska Department of Fish and Game administers all programs and activities free from discrimination on the bases of race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

If you believe you have been discriminated against in any program, activity, or facility, or if you desire further information please write to ADF&G, P.O. Box 25526, Juneau, AK 99802-5526; U.S. Fish and Wildlife Service, 4040 N. Fairfield Drive, Suite 300, Arlington, VA 22203 or O.E.O., U.S. Department of the Interior, Washington DC 20240.

For information on alternative formats for this and other department publications, please contact the department ADA Coordinator at (voice) 907-465-4120, (TDD) 907-465-3646, or (FAX) 907-465-2440.